TEAC®

SERVICE MANUAL

PC-10

Portable Cassette Recorder with Dolby* System

* Noise reduction circuit made under license from Dolby Laboratories Inc. The word "DOLBY" and the Double-D symbol are trademarks of Dolby Laboratories Inc.

TEAC CORPORATION

51031720

1. GENERAL DESCRIPTION

The TEAC PC-10 is a light-weight portable cassette tape recorder designed to be used with standard dry cell batteries in the field or with the supplied PA-2 AC Power Adapter where AC Power is available.
The PC-10 can be connected to your home stereo system for high quality stereo recording and playback. It also contains a built-in monophonic monitor speaker for non-critical record monitoring or listening in the field in place of stereo headphones which may also be used for monitoring. The deck has selectable Bias and EQ, built-in Dolby Noise Reduction circuitry, a record LIMITER as well as the standard controls and features found on other TEAC quality decks.

NOTE

1. When placing an order for parts, please refer to the PARTS LIST which is printed separately from this manual.
2. File the PARTS LIST manual together with this SERVICE MANUAL. Future TECHNICAL INFORMATION sheets should also be kept with these.
3. If adjustments or repair procedures are not sufficiently clear or seem too difficult to accomplish, or for more detailed technical information, please contact your nearest TEAC Factory Service Department, TEAC affiliated subsidiary or the TEAC Corporation. TEAC addresses are printed on the last page of this manual.

TABLE OF CONTENTS

1. General Description 3
2. Specifications and Service Data 4
3. Tools for Testing and Maintenance 5
4. Partial Dis-assembly 6
5. Parts Location 10
6. Measurement and Adjustment . . . –Mechanical– 11
7. Measurement and Adjustment . . . –Electrical– 14
8. Trouble Shooting 22
9. Level Diagrams 23

2. SPECIFICATIONS AND SERVICE DATA

Track System	4 track, 2 channel stereophonic
Type of Tape	Cassette tape C-60 and C-90 (Philips type)
Tape speed	1-7/8 inches per second (ips)
Heads	Erase and Record/Playback
Motors	Phase Locked Loop Servo Direct-Drive Coreless Capstan Motor, Mechanical Governed DC Reel Motor
Wow and Flutter (WRMS)	0.12% (at play back) 0.28% (at record-play)
Frequency Response	Refer to Frequency Response Limits chart on page 17 and 20
Signal-to-Noise Ratio (Overall)	50 dB: Can be improved with Dolby NR up to 5 dB/1 kHz, 10 dB/over 5 kHz (CrO_2 tape)
Inputs (impedance and level)	MIC: 0.35 mV/−67 dB (at MIC ATT 0 dB), 600-10k ohms LINE: 86 mV/−19 dB, 50k ohms load
Output (impedance and level)	LINE: 0.775 V for load impedance of 50 kohms or more (at 0 VU recording) HEADPHONE: 0.5 mW/8 ohms MONITOR SPEAKER: 300 mW/8 ohms (monophonic)
Power Requirement	DC: 9 V (1.5 V x 6, use standard "D" size Flashlight batteries) AC: 100/117/220/240 V, 50/60 Hz using PA-2 AC Adaptor (indicates the AC Power Requirement for the general export model)
Power Consumption	9 W
Mic Attenuator	0/15/30 dB Switchable
Dimensions (WHD)	292 x 91 x 232 mm (11-1/2" x 3-1/2" x 9-9/16")
Weight	5 kg (11 lbs) including batteries

* Specifications were determined using Hi-Fi tape except as noted.

* Improvements may result in specifications or features change without notice.

* 0 dB = 0.775 V.

Supplied Accessories:

- Input-Output connection cords,
- Silicone cloth,
- Cleaning stick,
- Shoulder strap,
- PA-2 AC Adaptor

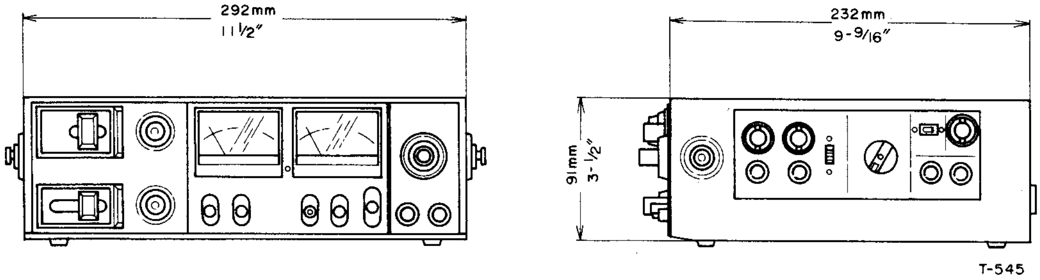


Fig. 2-1 Dimensions

3. TOOLS FOR TESTING AND MAINTENANCE

A minimum of the following tools and test instruments are required for measuring and adjusting to obtain optimum performance. Regular maintenance tools will be adequate for those not listed here. If any test instrument listed here is not available, a close equivalent can be used.

SPRING SCALE	0~1kg (2.2 lbs) 0~70g (0~2.5 oz) 0~200g (0~7.0 oz)
FLUTTER METER	Meguro Denpa Sokki K.K. Model MK-668A or D & R Co., Model FL-4B
DIGITAL COUNTER	Range; 0 Hz–100 kHz
BAND PASS FILTER	1 kHz narrow-band pass type
VTVM (AC)	Hewlett-Packard Co., Model 400E
OSCILLOSCOPE	General purpose (10 Hz ~ 100 kHz)
TOOLS	General 2 mm nut driver, small (+) screw driver Hex head Allen Wrench Plastic alignment tool
REGULATED DC POWER SUPPLY	Variable 0 ~ 20V
HEAD DEMAGNETIZER	TEAC E-1 or equivalent

TEAC TEST TAPE (For playback Test)

MTT-150:	For Dolby Level Calibration
MTT-116U:	For Frequency Response Check
MTT-111:	For tape speed and Wow/Flutter checks

TEAC TEST TAPE (For Record Test)

MTT-505:	For record test with BIAS/EQ 1
MTT-501:	For record test with BIAS/EQ 2
MTT-502:	For Wow/Flutter check

TORQUE MEASUREMENT USING THE CASSETTE TORQUE METER

The torque measurements can be easily done with the Cassette torque Meter indicated below.

For take-up torque measurement:	0 ~ 100 g·cm
For fast forward and rewind torque measurements:	0 ~ 160 g·cm

By use of this, it is possible to directly obtain the torque value without calculation, and to do the measurement simply with no removal of any parts.

Load the Meter on the unit and read the pointer indication on the dial scale for each tape movement operation.

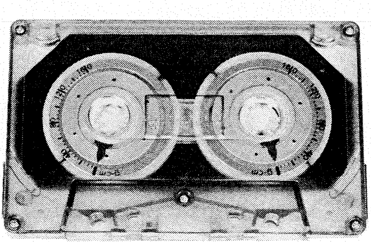


Fig. 3-5 Cassette Torque Meter

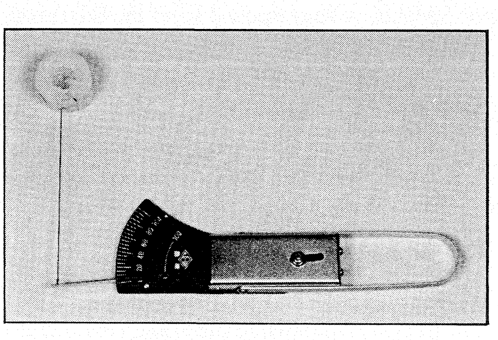


Fig. 3-1 Spring Scale and Cassette Reel Adapter

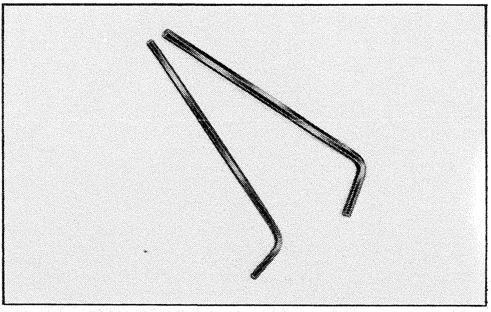


Fig. 3-2 Hex Head (Allen) Wrench

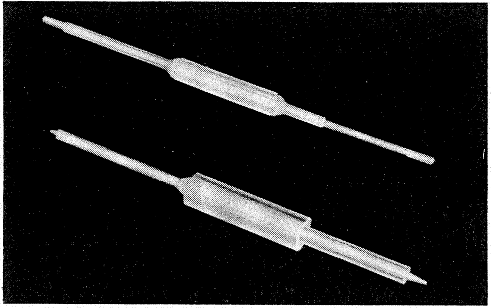


Fig. 3-3 Plastic alignment Tool

TEAC TEST TAPE
TEAC TEST TAPE

Fig. 3-4 TEAC Test Tape

4. PARTIAL DIS-ASSEMBLY

4-1 TOP COVER AND BOTTOM COVER REMOVAL

TOP COVER:
Most mechanical checks and adjustments can be made from the Top with the (Top) Cover removed (by 2 screws) and Monitor Speaker wires removed from PC Bd Terminals.

BOTTOM COVER:
Most amplifier checks and adjustments can be made from the Bottom with the (Bottom) Cover removed (by 3 screws).

NOTE: The index counter reset button and EJECT Lever protrude from the Top of the PC-10 so use care when laying deck on top surface.

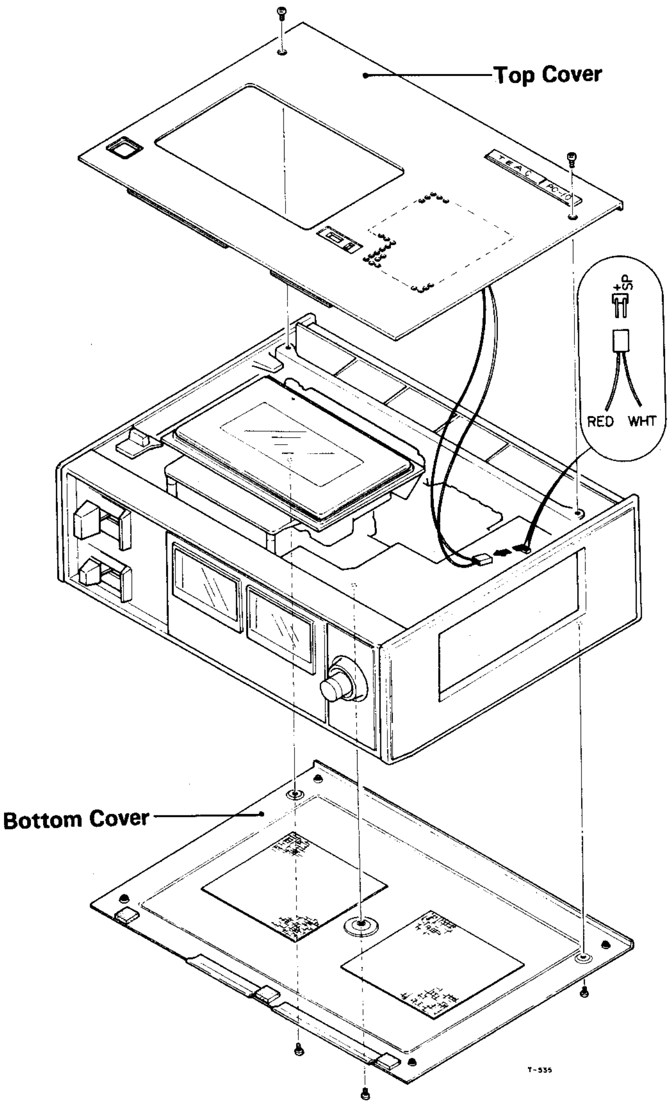


Fig. 4-1 Top and Bottom Covers Removal

GENERAL DISASSEMBLY PRECAUTIONS

- * Clean all disassembled parts.
- * Use the right tools. Demagnetize the tools before use.
- * Place the disassembled parts in order of disassembly.
- * Do not reuse the E ring. Use a new one when reassembling.
- * Do not attempt parts disassembly beyond that shown in the disassembly drawing which clearly indicates such limits.
- * To prevent loosening due to vibration, apply "LOCTITE" to all tightened screws.
- * Do not attempt partial adjustment of the factory adjusted assemblies.
- * When mounting or removing a spring, pay heed to the position (direction) of the hook. The wrong position may result in a change in the tension.

4-2 CASSETTE HOLDER REMOVAL

1. Remove the Top Cover.
2. Remove the 4 screws holding the Cassette Holder.
3. Lift out the Cassette Holder carefully.

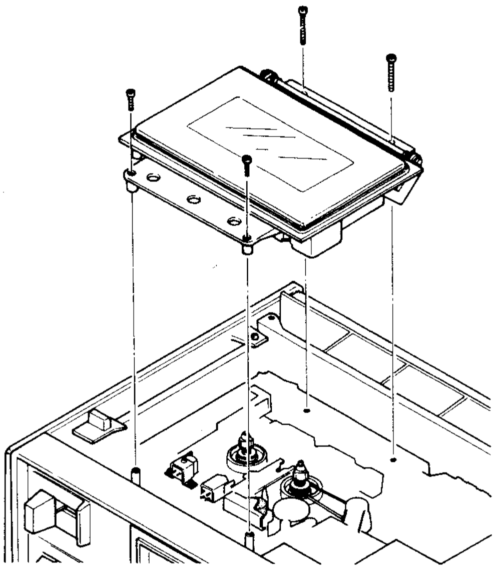


Fig. 4-2 Cassette Holder Removal

4-3 HEADS AND PINCH ROLLER REPLACEMENT

1. Remove the Top Cover.
2. Observe these CAUTIONS:
   - a. Springs must be re-installed to their former positions.
   - b. Re-wire the heads according to the diagram below.
   - c. Always perform the head alignment and pinch roller pressure adjustment sections after replacement.

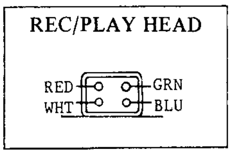


Fig. 4-3 Head Wiring

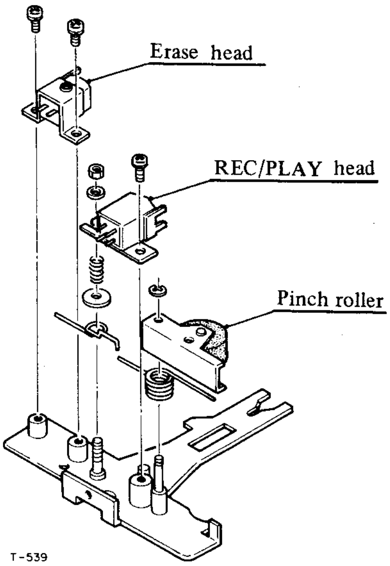
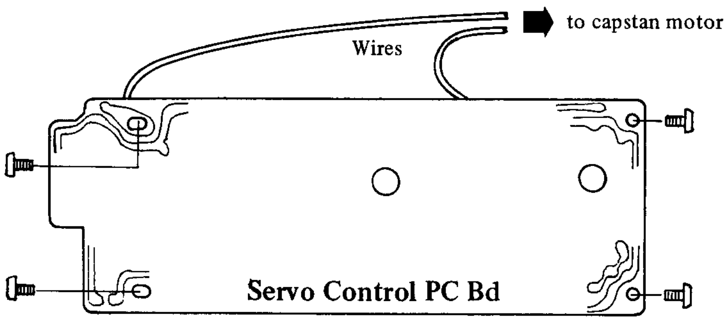


Fig. 4-4 Heads and Pinch Roller Replacement

4-4 CAPSTAN MOTOR ASS'Y REMOVAL (WITH SERVO CONTROL PC BD.)

1. Disconnect the power cord, and/or remove batteries
2. Remove the Cassette Holder (from Top).
3. Place the STOP-PLAY Lever to the STOP position.
4. Remove the 3 screws holding the capstan Motor.
5. Romove the Servo Control PC Bd (by 4 screws). see below.
6. Carefully lift out the Capstan Motor (from Bottom) with Servo Contol PC Bd.
7. Refer to PARTS LOCATION in page 10.



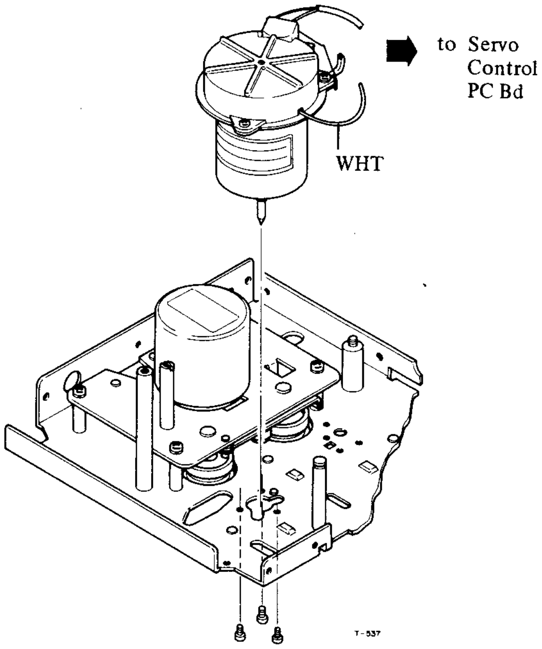


Fig. 4-5 Capstan Motor Ass'y Removal

4-5 REEL MOTOR REMOVAL

1. Remove Top and Bottom Covers.
2. Remove the Cassette Holder.
3. Remove the Servo Control PC Bd (by 4 screws) and Auto Stop PC Bd (by 3 screws) from bottom.
4. Remove the Counter Belt from the Take-up Reel Table Ass'y.
5. Remove the 4 screws holding Motor Base Plate Ass'y.
6. Release the Brake Arm Ass'y from the Reel Tables by Finger.
7. Carefully lift out the Motor Base Plate Ass'y. (Fig. 4-6)
8. Unsolder the 1 wire (BRN) from the Auto-Stop PC Bd. See Fig. 4-7.
9. Remove the 3 screws holding Reel Motor. Watch for the 2 Plate Spacers. See Fig. 4-7.
10. Remove the Reel Motor.
11. Refer to PARTS LOCATION in page 10.

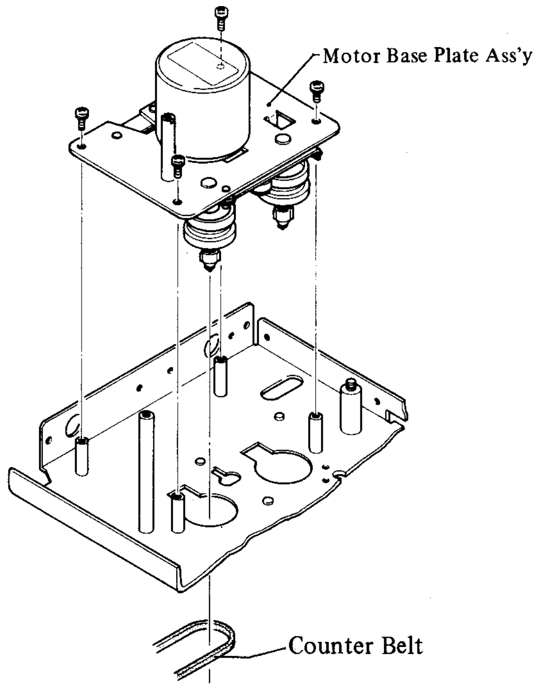


Fig. 4-6 Reel Motor Removal

4-6 TAKE-UP AND SUPPLY REEL TABLE ASS'Y REMOVAL

1. Place the STOP-PLAY Lever to STOP position.
2. Remove the "cap" and E clip (ℇ) from the top of each shaft.
3. Slowly raise the reel table ass'y.
4. Be careful not to lose the 2 Washers.
5. Refer to PARTS LOCATION in page 10.

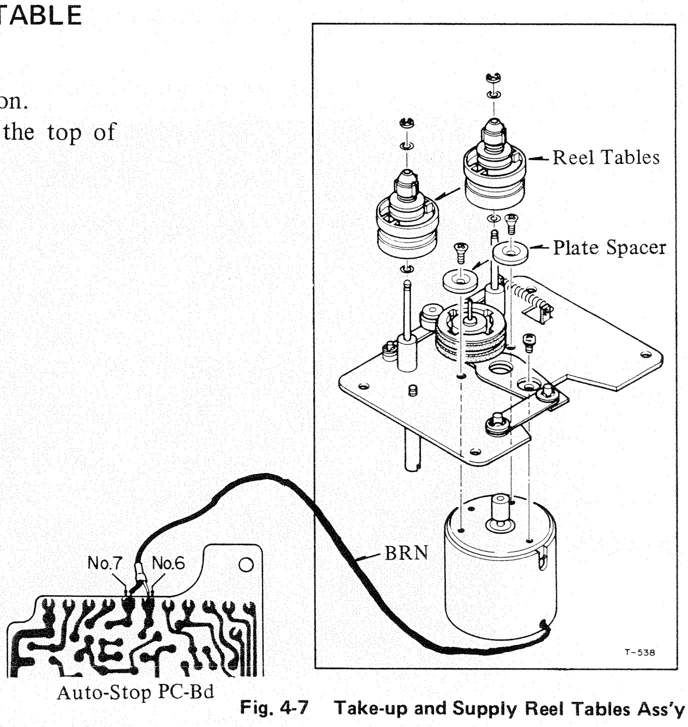


Fig. 4-7 Take-up and Supply Reel Tables Ass'y Removal

4-7 TEAC MAINTENANCE FLUIDS

– CLEANING –

To prevent the loss of high-frequency response, insufficient erase or tape squeal, the heads should be cleaned frequently. Under average operating conditions, clean the heads after each 8 to 10 hours of use, using TEAC cleaner TZ-261 A or moisten clean cloth with alcohol. Carefully wipe the face of each head and the tape guidance components to remove all traces of dirt and magnetic oxide deposits. TZ-261B for Rubber cleaning must be used on the pinch roller, contact belt, counter belt ..... etc.

– LUBRICATION –

Most of the rotating parts of the tape transport are permanently lubricated. There are, however, two points which require periodic lubrication. They are the capstan shaft and the pinch roller shaft. Use of TEAC TZ-255 oil is recommended.
NOTE: If the Idler, counter belt reel tables and pinch roller become soiled with oil or grease, slippage will occur.

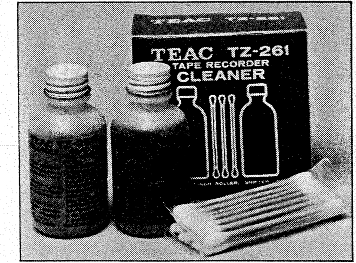


Fig. 4-8 TEAC Cleaner

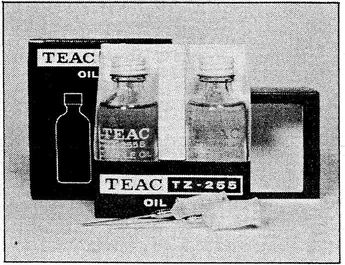
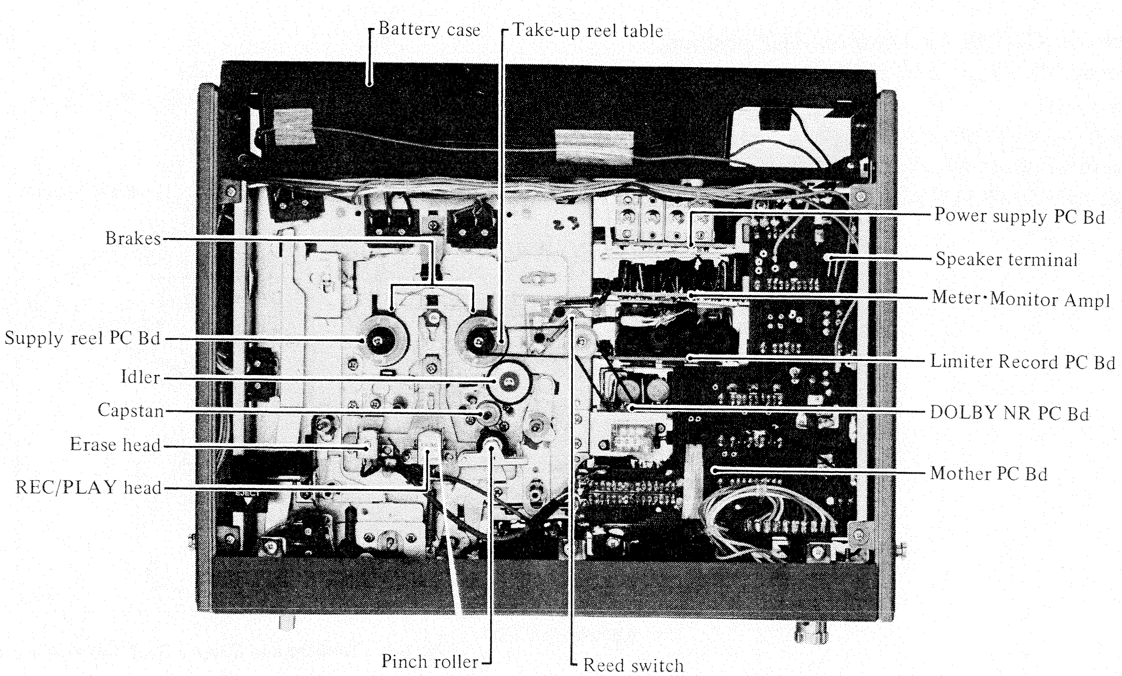
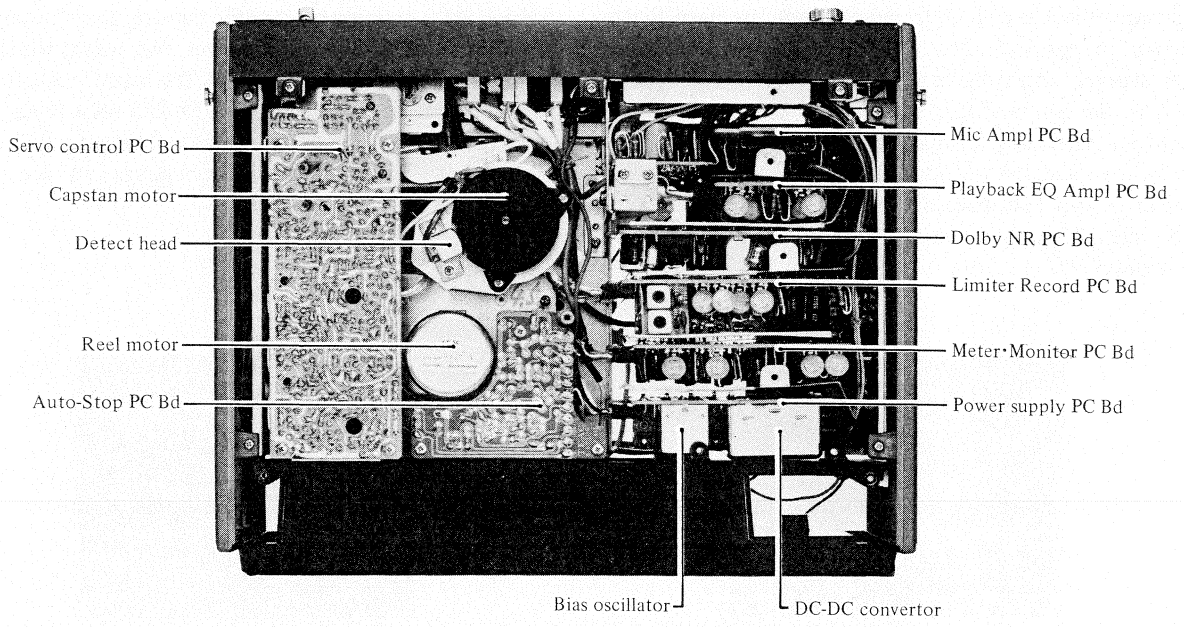


Fig. 4-8 TEAC Oil Kit

5. PARTS LOCATION


Battery case
Take-up reel table
Brakes
Supply reel PC Bd
Idler
Capstan
Erase head
REC/PLAY head
Power supply PC Bd
Speaker terminal
Meter·Monitor Ampl
Limiter Record PC Bd
DOLBY NR PC Bd
Mother PC Bd
Pinch roller
Reed switch

—TOP VIEW—


Servo control PC Bd
Capstan motor
Detect head
Reel motor
Auto-Stop PC Bd
Mic Ampl PC Bd
Playback EQ Ampl PC Bd
Dolby NR PC Bd
Limiter Record PC Bd
Meter·Monitor PC Bd
Power supply PC Bd
Bias oscillator
DC-DC convertor

—BOTTOM VIEW—

6. MEASUREMENT AND ADJUSTMENT

– MECHANICAL –

These adjustments should be perfomed by experienced technicians, and then only when going through the complete test and check procedures on the unit which is being tested.
The TEAC cassette mechanism is designed to require a minimum of adjustments, checks or routine maintenance. When parts are replaced, the observation of a few simple precautions will result in satisfactory performance with a minimum of adjustments.
The following procedures are primarily performance checks. Before performing these checks a complete cleaning, demagnetization and lubrication should be accomplished as outlined in the preventive maintenance section of this manual. (See 4-7 in page 9.)

6-1 CHANGING THE POWER LINE SETTING (On PA-2 Adaptor)

The voltage selector plug must be inserted so that the voltage indicated in the cut-out window of the voltage selector plug corresponds to the power line voltage supplied in your area. Four settings provided are: 100, 117, 220 and 240 volts. (See Schematic Diagram for PA-2)

1. Remove the 1 cross-point screw (+) which secures the plate and rotate plate away from plug.
2. Pull out the Voltage Selector Plug. Re-position it so the Correct voltage is visible in the cut-out section.
3. Insert the plug firmly in the socket and replace the Plug retaining plate.

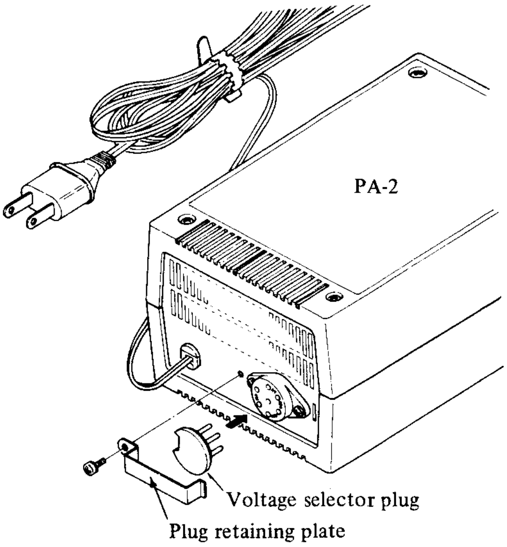


Fig. 6-1 Power Line Setting (on PA-2)

6-2 PINCH ROLLER PRESSURE

1. Attach a spring scale to the pinch roller assembly as shown in Fig. 6-2.
2. Pull back on the scale until the pinch roller is completely free from the tape capstan shaft.
3. Gradually release the tension on the scale until the pinch roller just begins to rotate. The scale should then be reading approximately **320 to 420 grams (11.3 to 14.8 oz).**
4. If the reading is incorrect, replace the spring or assembly.

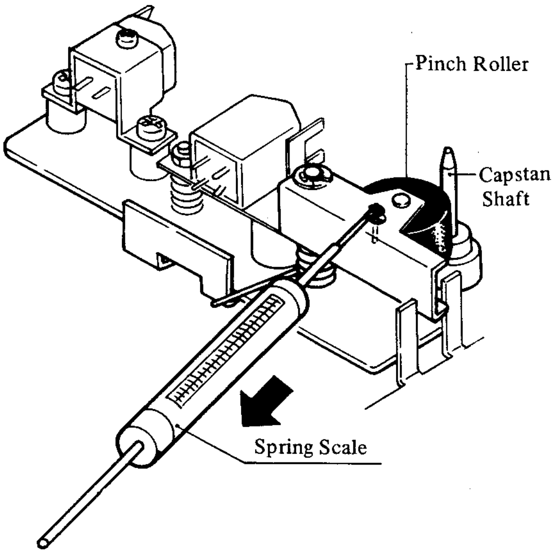


Fig. 6-2 Pinch Roller Pressure

6-3 TAKE-UP TORQUE

1. With the top cover removed, apply power to the unit.
2. Set the cassette tape hub and torque gauge on the (right) take-up reel.
3. Move the STOP/PLAY Lever to the PLAY position.
4. Allow the rotation of the reel to draw the scale toward the hub.
5. **Specification should be 45 ~ 70 g-cm (0.6 ~ 1.0 oz-inch).**

6-4 F. FWD & REWIND TAKE-UP TORQUE

1. With the top cover removed, apply power to the unit.
2. Set the cassette tape hub and spring scale on the (right) take-up reel.
3. Move the ◀◀■▶▶ Lever to the ▶▶ Fast Forward position.
4. Allow the rotation of the reel to draw the scale toward the hub. **Specification should be 100 ~ 150 g-cm (1.4 ~ 2.1 oz-inch).** Rewind torque is the same but use the left reel and ◀◀ Rewind mode.

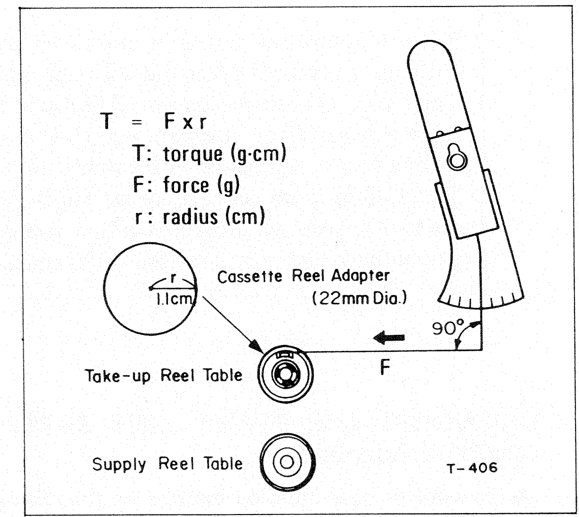

T = F x r
T: torque (g·cm)
F: force (g)
r: radius (cm)
r
1.1cm
Cassette Reel Adapter
(22mm Dia.)
90°
F
Take-up Reel Table
Supply Reel Table
T-406

Fig. 6-3 Torque Measurement

6-5 BACK TENSION CHECK

1. Place the unit to PLAY/PAUSE mode.
2. If brake action is too "tight" or "loose", bend the Back Tension brake arm in or out.
3. Brake tension torque should be **approx. 3~5 g-cm. (0.04 oz-inch ~ 0.07 oz-inch)**

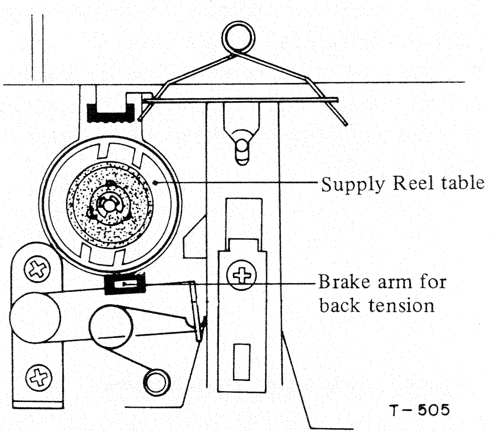

Supply Reel table
Brake arm for
back tension
T-505

Fig. 6-4 Back Tenision Check Location

6-6 BATTERY SENSITIVITY CHECK

1. Connect the Regulated DC Power Supply to DC IN 9V jack. (instead of PA-2)
2. Apply 5.4 V DC to DC IN 9V (PC-10) jack.
3. Press BATT button while unit is in the play or record mode.
4. Watch the reading on the right side VU Meter.
5. Meter should read at the lowest line of area marked BATT (−1.8 VU).
6. If adjustment is required, remove front panel (6 screws −3 on top and 3 on bottom).
   Also remove ◀◀■▶▶ Lever and STOP-PLAY Lever and RECORD control knob.
7. Adjust VR-11 (on Front Panel PC Board).

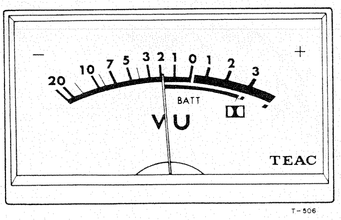

−
+
20
10
7
5
3
2
1
0
1
2
3
BATT
VU
TEAC
T-506

Fig. 6-5 Right Side VU Meter

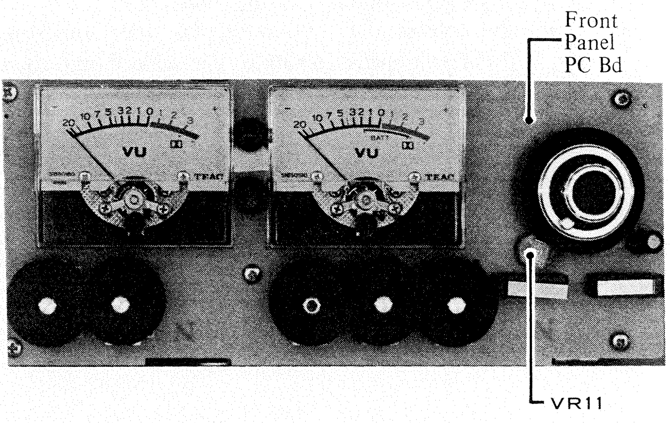

Front
Panel
PC Bd
VU
TEAC
VR11

Fig. 6-6 Adjustment Location (on Front Panel PC Bd)

6-7 AUTO-END-STOP FUNCTION CHECK

During Play and or Record mode, when the tape reaches the end, end stop facility releases the STOP-PLAY lever and Record button and stops the capstan motor.
During ◀◀ or ▶▶ operation, when tape reaches the end, the reel motor is turned off but ◀◀■▶▶ lever is not released.

6-8 OPERATION CAUTIONS

1. The STOP-PLAY Lever (A), the fast wind lever (B) and the EJECT lever (C) are mechanically inter-related and each must be correctly positioned to allow proper operation of the others. See the Figure on the right.
2. (A) must be in STOP and (B) must be at ■ to allow (C) to function correctly.
3. (A) must be in STOP to allow (B) to go to ◀◀ or ▶▶.
4. (B) must be in ■ to allow (A) to go to PLAY.
5. Also for record mode, (A) must be at STOP prior to depressing REC button. Hold REC button in and then move (A) to PLAY.

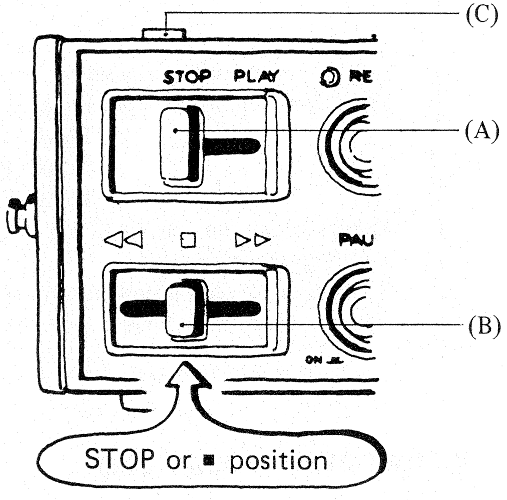


Fig. 6-7 Stop-Play Lever and ◀◀■▶▶ Lever

6-9 FAST WIND TIME

Clean all tape path components and check for 9V DC voltage. Using a C-60 cassette, the fast wind time (Fast Forward or Rewind) should not exceed **90 seconds.**
Clean and lubricate all rotating parts and re-check torque values if the fast wind time is excessive.

6-10 TAPE SPEED AND WOW/FLUTTER CHECK

NOTE: Before performing this measurement, clean the Pinch roller, take-up reel, supply reel and R/P head etc., with TEAC TZ-261A and TZ-261B (or equiv.) as appropriate.

1. Connect a Wow/Flutter Meter and digital frequency counter to the remaining OUTPUT jack.
2. Place the Test Tape TEAC MTT-111 in the unit and play tape.
3. If Tape speed is too fast or too slow, adjust VR-901 (on Servo control PC Bd) for a frequency counter indication between **2970–3030 Hz (3000 Hz ±1%).**
4. With same connections as in Step 1, check for Wow/Flutter.
5. Flutter should not exceed 0.12% (WRMS) at any tape position such as full take-up reel, full supply reel or mid point.
6. If adjustment is necessary, adjust VR-902→VR-903→VR-904 in order (on Servo control PC Bd) for minimum indication at the Wow/Flutter Meter.
7. Load a TEAC MTT-502 Test Tape and Record a 3,000 Hz input signal.
8. Rewind and playback the recorded signal. The reading on the wow and Flutter Meter should be **0.28% (WRMS) or less.**

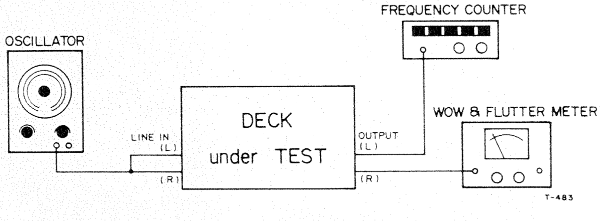


Fig. 6-8 Flutter and Tape Speed Measurement Set-up

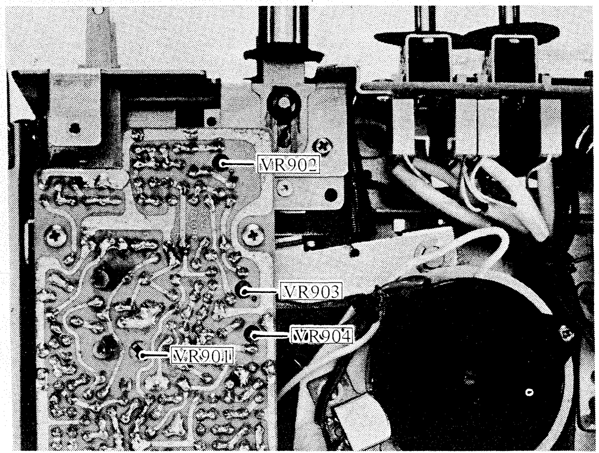


Fig. 6-9 Adjustment Locations (on Servo Control PC Bd)

7. MEASUREMENT AND ADJUSTMENT

–ELECTRICAL–

Important

Before performing maintenance on this unit, throughly clean and demagnetize the tape path. TEAC maintenance equipment to be used:

TEAC TZ-261 A/B for cleaning
TEAC TZ-255 A/B for oilling
TEAC E-1 (or equiv.) for demagnetizing

Always verify that the PA-2 AC Adaptor unit is set to the proper voltage for the local power line before applying power.

Procedures for checks and adjustments, unless otherwise indicated, are for the left channel. Repeat the same procedures for the right channel. Double number parts refer to left channel/Right channel.

7-1 ADJUSTMENT LOCATIONS

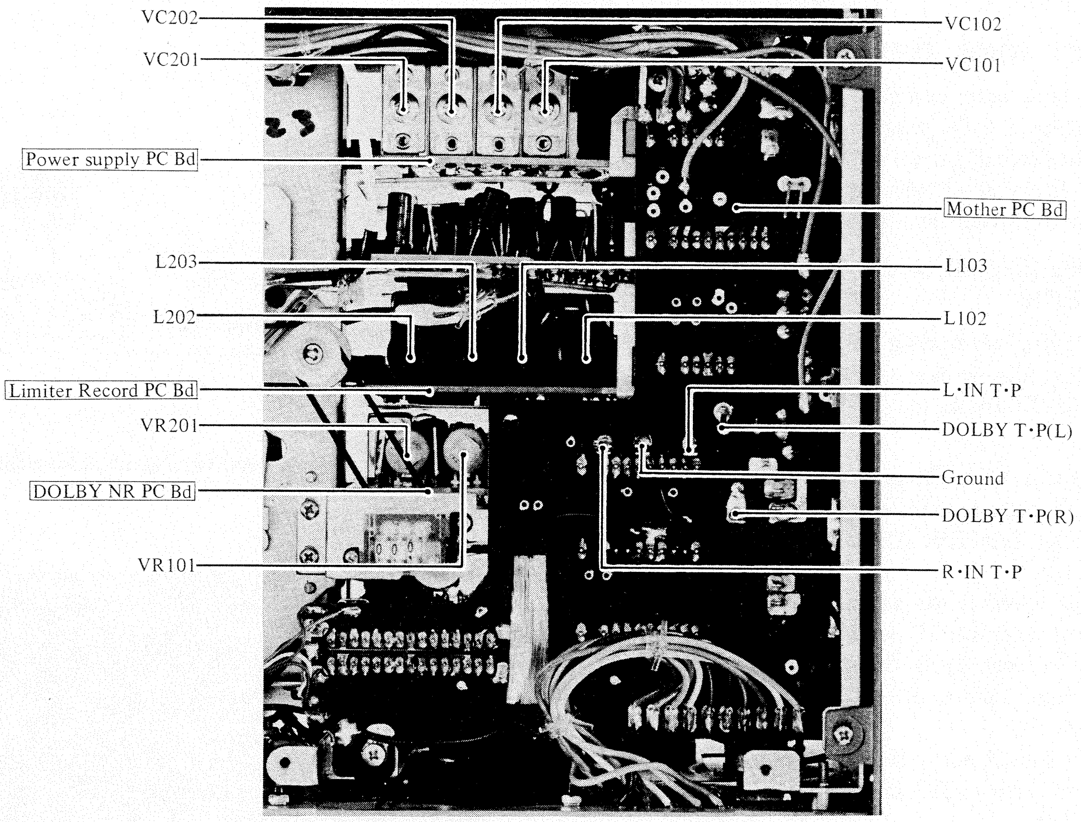
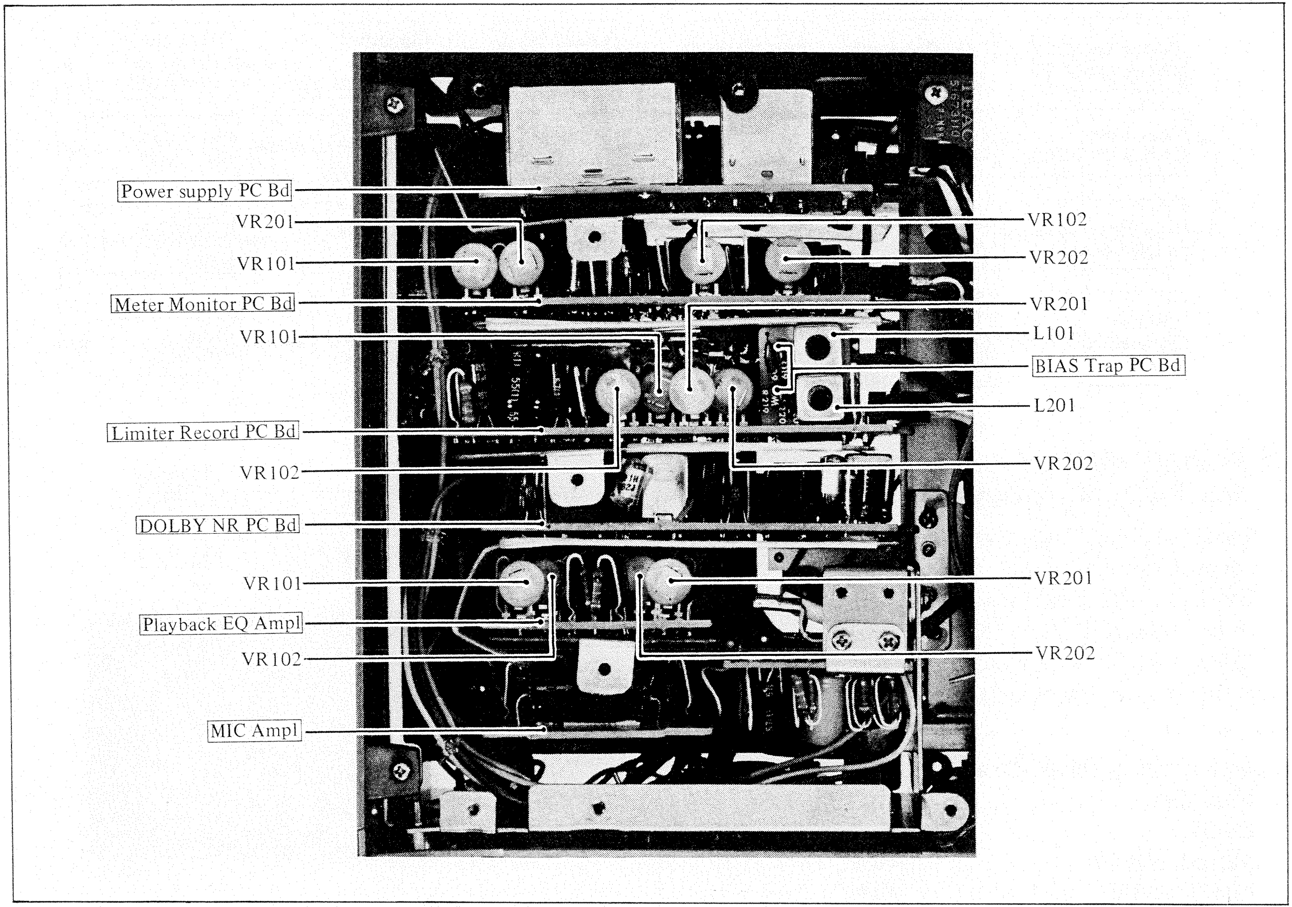

VC202
VC201
Power supply PC Bd
L203
L202
Limiter Record PC Bd
VR201
DOLBY NR PC Bd
VR101
VC102
VC101
Mother PC Bd
L103
L102
L·IN T·P
DOLBY T·P(L)
Ground
DOLBY T·P(R)
R·IN T·P

Fig. 7-1 Ampl PC Board Location and Adjustment Points-1
–TOP VIEW –


Power supply PC Bd
VR201
VR101
Meter Monitor PC Bd
VR101
Limiter Record PC Bd
VR102
DOLBY NR PC Bd
VR101
Playback EQ Ampl
VR102
MIC Ampl
VR102
VR202
VR201
L101
BIAS Trap PC Bd
L201
VR202
VR201
VR202

Ampl PC Board Location and Adjustment Points-2
– BOTTOM VIEW –

ADJUSTMENT POINTS CHART

PC Board	Adj. Component	Adjustment
PLAYBACK EQ	VR101/VR201 VR102/VR202	Playback Level Playback EQ
LIMITER RECORD	VR101/VR201 VR102/VR202 L101/L201 L102/L202 L103/L203	Record Level (2) Record Level (1) Bias Trap Record EQ (1) Record EQ (2)
DOLBY	VR101/VR201	Input Level
METER MONITOR	VR101/VR201 VR102/VR202	VU Meter Cal. Peak Level Indn
POWER SUPPLY	VC101/VC201 VC102/VC202	Record Bias (1) Reoord Bias (2)

7-2 ADJUSTMENT SEQUENCE CHART

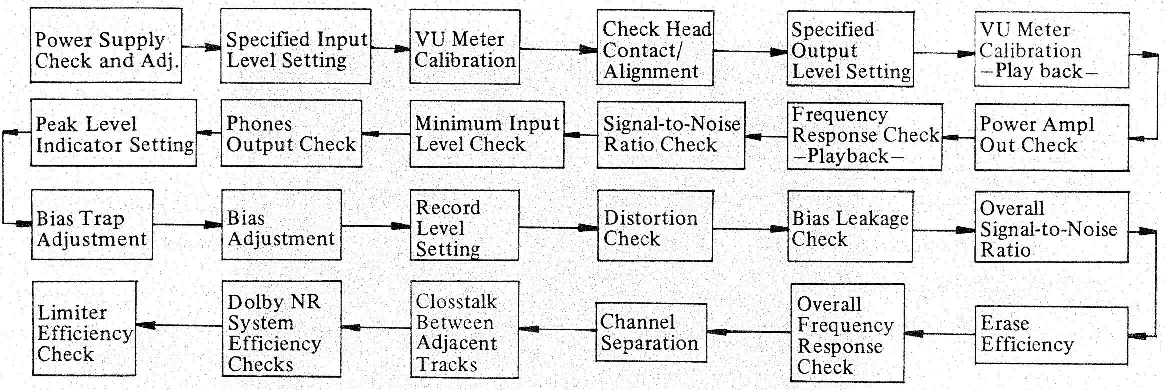

Power Supply Check and Adj.
Specified Input Level Setting
VU Meter Calibration
Check Head Contact/ Alignment
Specified Output Level Setting
VU Meter Calibration –Play back–
Power Ampl Out Check
Frequency Response Check –Playback–
Signal-to-Noise Ratio Check
Minimum Input Level Check
Phones Output Check
Peak Level Indicator Setting
Bias Trap Adjustment
Bias Adjustment
Record Level Setting
Distortion Check
Bias Leakage Check
Overall Signal-to-Noise Ratio
Erase Efficiency
Overall Frequency Response Check
Channel Separation
Closstalk Between Adjacent Tracks
Dolby NR System Efficiency Checks
Limiter Efficiency Check

Fig. 7-2 Adjustment Sequence Chart

7-3 POWER SUPPLY CHECK AND ADJ. (on PA-2 AC Adaptor)

1. Remove Top of Plastic case. (by 4 screws)
2. Connect to an AC outlet.
3. Connect a DC Voltmeter between the Test point No. +4 and –3 (DC 9 V) on PC Bd.
4. Adjust VR-101 for 9 V DC.

NOTE: Be sure to observe polarity.

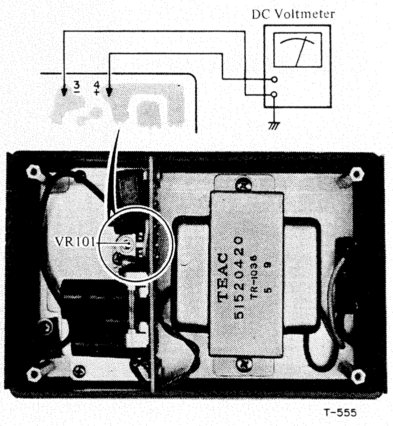

DC Voltmeter
3
4
VR101
TEAC
5152042O
TR-1036
5 9
T-555

Fig. 7-3 9V DC Test Point (on PA-2)

Set the controls of the PC-10 as outlined below:

BIAS SW 2
EQ SW : 2
DOLBY NR SW . . . . OUT
LIMITER SW . . . . OUT
MIC/LINE IN Selector SW. . . LINE IN (on side panel)

7-4 SPECIFIED INPUT LEVEL SETTING

1. Remove Top Cover (2 screws), remove Speaker wires (RED/WHT) and Bottom Cover (3 screws) by removing screws (2mm).
2. Apply a 400 Hz signal at –9 dB to the LINE IN jacks.
3. Depress PAUSE Button then Depress and hold REC Button and move STOP/PLAY Lever to PLAY position.
4. Adjust REC Volume Controls for –25 dB (43.5 mV) on the PC Bd L. IN or R. IN at T.P (Test Point).
5. Adjust VR-101/201 (on Dolby PC Bd) for 580 mV (–2.5 dB) at the L. T.P. or R. T.P. (Test Point). Use VTVM with input impedance of 1M ohm or more.

IMPORTANT: This is the Specified INPUT Level setting. Do not disturb this setting until the remaining adjustments have been completed.
During the following checks and adjustments, always keep 580 mV at the DOLBY Cal Test Points.

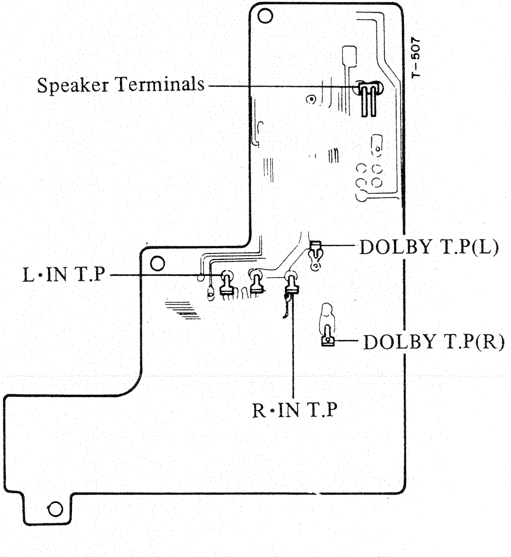

Speaker Terminals
T-507
DOLBY T.P(L)
L·IN T.P
DOLBY T.P(R)
R·IN T.P

Fig. 7-4 580mV (Dolby) Test Point and Adjustment Location (on mother PC Bd)

7-5 VU METER CALIBRATION

6. With controls set as described above, check for +3 VU indication on the VU Meters.
7. If adjustment is required, adjust VR-101/201 (on Meter Monitor Ampl. PC Bd).

7-6 CHECK HEAD CONTACT/ALIGNMENT

1. Connect theTest equipment as shown in Fig. 7-5.
2. Place a TEAC Test Tape MTT-150 (400 Hz) in the unit. Play the 400 Hz Test signal. (Dolby Tone).
3. Check that the oscilloscope shows that the signals are less than 45° out of phase.
4. Change to the TEAC Test Tape MTT-116U in the unit. Play the 10 kHz Test signal.
5. Adjust azimuth nut on PLAY/REC head for max. indication on the VTVM. (Note that cassette holder must be removed to adjust azimuth nut.)
   After adjustment is complete, secure the nut with locking or insulating paint.

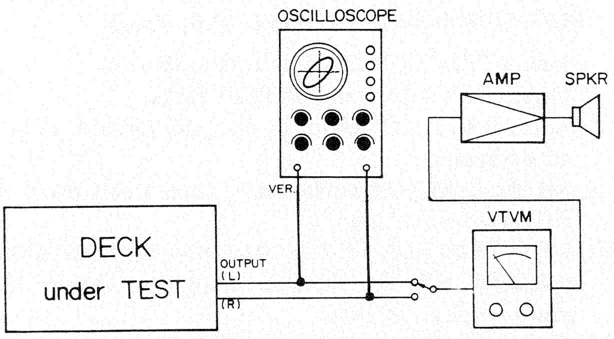


Fig. 7-5 Head Alignment Fine Adjustment Set-up and test connections

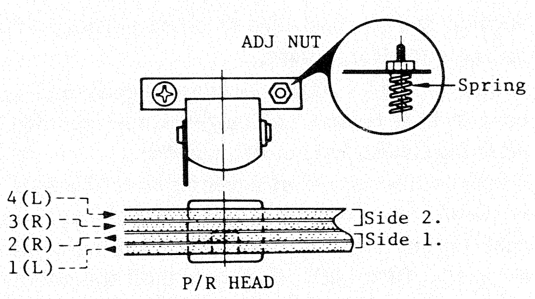


Fig. 7-6 Head Adj. Location

7-7 SPECIFIED OUTPUT LEVEL SETTING

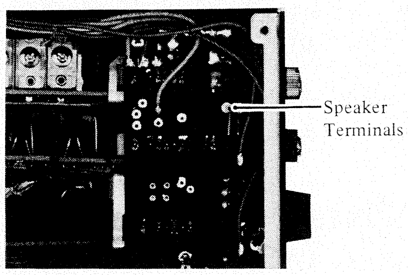
1. Load and Play the TEAC Test Tape MTT-150 in the unit.
2. Readjust VR-101/201 (on Play EQ. Ampl.PC Bd.) for +3 dB (1.1 V) output level at the OUTPUT jacks.

7-8 VU METER CALIBRATION

3. With controls set as described above, check for +3 VU ±1 VU indication on the VU Meters.

7-9 POWER AMPL OUT CHECK

1. Check for +3 dB (1.1 V) at OUTPUT jacks. (Specified Output Level).
2. Connect an 8 ohm non-inductive resistor across the Monitor Speaker Terminals.
   Connect VTVM or equivalent across the resistor.
3. VTVM should indicate +6 dB. (1.54V).
4. If adjustment is required, adjust MONITOR VOLUME (on side panel).



7-10 FREQUENCY RESPONSE CHECK

1. Place the TEACTest Tape MTT-116U (or equiv.) tape in the unit. This tape will apply a 31.5 Hz to 14 kHz, –20 dB tone signal below operating reference level.
2. Compare the readings obtained, on the Test Set (AC VTVM) with response limits given in Fig. 7-7.
3. If adjustment is required, adjust P.B. EQ VR-102/202 (on Playback EQ Ampl.PC Bd.).
4. If the frequency response does not meet specified response limits, head should be checked for accumulated dirt or oxides. If clean, head azimuth must be readjusted.

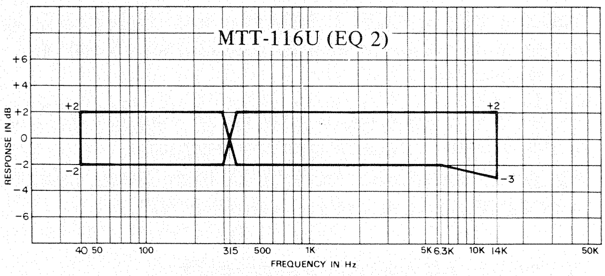


Fig. 7-7 Frequency Response Limits PLAYBACK

7-11 SIGNAL-TO-NOISE RATIO CHECK

The following check must be performed with EQ SW at 2 and DOLBY NR SW OUT position.

1. Insert a MTT-150 tape (200 nwb/m) in the unit.
2. Place the unit in the PLAY and PAUSE mode.
3. The AC VTVM connected to the OUTPUT jacks should indicate –47 dB (3.45 mV) or more.
4. This corresponds to a signal-to-noise ratio of 50 dB (difference between residual noise –47 dB and specified output level +3 dB).

7-12 MINIMUM INPUT LEVEL CHECK

1. Turn the REC controls fully clockwise.
2. Apply a 400 Hz test tone at minimum input level as listed below to each input jack. When +3 dB output is obtained at the OUTPUT jacks, check that input levels conform to value listed in chart.

Input jacks	MIC ATT	Minimum input level
LINE IN		–19dB ±2 dB (109 mV~69.0 mV)
MIC	0	–67 dB ±2 dB (435 μV~274 μV)
	15	–53 dB ±2 dB (2.44mV~1.54mV)
	30	–37 dB ±2 dB (13.7mV~8.69mV)

After check, set REC controls to specified input level position. (see section 7-4.)

7-13 PHONES OUTPUT CHECK

1. Load a TEAC MTT-501 Test Tape in the unit.
2. Place the unit in REC/PAUSE mode.
3. Apply a 400 Hz signal –9 dB (274 mV) to the LINE IN jacks.
4. Connect an 8 ohm non-inductive resistor across the PHONES jack. Connect VTVM across the resistor.
5. VTVM should indicate –21 dB ±2 dB (54.8 mV to 86 mV).

7-14 PEAK LEVEL INDICATOR SETTING

1. Apply a 400 Hz signal at –9 dB (274 mV) to Left chan.
   LINE IN jack only, and place the unit in the record mode.
2. Adjust VR-102 (On Meter Monitor Ampl. PC Bd.) so that the PEAK LEVEL indicator just begins to illuminate when the input level is increased by +3 dB to –6 dB (388 mV).
3. Decrease the input signal level to –8 dB (308 mV), the PEAK LEVEL indicator should extinguish.
4. Apply the same procedures to the Right chan., using the right LINE IN jack and adjusting VR202.

7-15 BIAS TRAP ADJUSTMENT

1. Remove all input signals.
2. Set the SW as outlined below:
   BIAS SW . . . . . . 2 EQ SW 2
   DOLBY NR SW . . . . . . OUT
   MIC/LINE Selector SW (on side panel) . . . . . . LINE IN
3. Depress the PAUSE Botton, then depress and hold REC Botton and move STOP/PLAY Lever to PLAY position.
4. Connect a VTVM or oscilloscope across the hot side of L-101/201 (Bias Trap T. P. on Trap Coil PC Bd.) and ground.
5. Adjust L-101/201 for minimum reading.

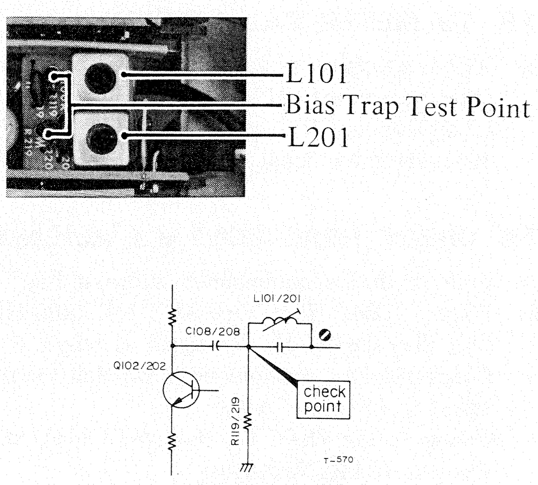


Fig. 7-8 **Bias Trap Check Point (on Trap Coil PC Bd)**

7-16 BIAS ADJUSTMENTS

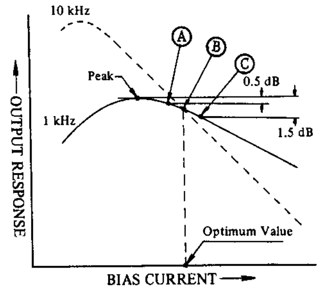
BIAS/EQ Switches at position 1. (CrO_2 Tape)

1. Load a TEAC MTT-505 Test Tape in the unit.
2. Connect a VTVM to the OUTPUT Jacks.
3. Connect an AF Oscillator to the LINE IN Jacks through an attenuator.
4. Set the BIAS/EQ Switches at position 1 and place the unit in the record mode.
5. Adjust BIAS ADJ. VC-101/201 (on power PC Board) in a counter clockwise direction until the capasitor leaf spring opens completely.
6. Apply a 1 kHz signal to the LINE IN Jacks at 10 dB below the Specified Input level (–19 dB, 86 mV).
7. Rewind and playback this recorded portion of the tape and note the Output level.
8. Adjust the BIAS ADJ. clockwise slightly and again record awhile, rewind and playback the recorded signal. Note the Output level during playback.
9. Continue this process of adjusting the BIAS ADJ. slightly, then record, rewind and playback the tape until the peak output signal level is obtained. Then continue to adjust the BIAS ADJ. clockwise until the output signal level decreases by 0.5 dB from the peak during playback.
10. Decrease the AF Oscillator level to 33 dB below the Specified Input Level (i.e., –42 dB or 6.15 mV) and record frequencies of 10 kHz and 1 kHz.
    During playback check for identical Output levels at both frequencies. If necessary, turn the BIAS ADJ. further clockwise (before recording) until the Output level for both frequencies is the same during playback.

NOTE: After balancing the response in step 10, the bias level as set in step 9 must be such that the Output remains within the limits indicated in the figure. Specifically 0.5 dB to 1.5 dB over-bias.

Repeat above procedure with following changes.

BIAS/EQ SW 2 position (Regular Tape)
Test Tape . . . . . . TEAC MTT-501
Adjust BIAS ADJ VC-102/202 as in BIAS/EQ SW 1 position.



Ⓐ Coarse adj. at 1 kHz/–19 dB (0.5 dB decrease from peak output level)
Ⓑ Fine adj. at 1 kHz/–42 dB (output levels of 1 kHz and 10 kHz signals are the same)
Ⓒ Fine adj. must be within 1.5 dB over-bias position of 1 kHz signal from peak

Fig. 7-9 Bias Limits Chart

7-17 RECORD LEVEL SETTING

BIAS/EQ SW 1 position (CrO_2 Tape)

1. Insert TEAC MTT-505 in the unit, set BIAS/EQ SW to the 1 position.
2. Place the unit in the Record mode with PAUSE Botton engaged.
3. Apply a 400 Hz signal to LINE IN jacks at 3 dB below the specified Input Level (–12 dB 194 mV). VU Meters should indicate 0 VU.
4. Begin recording. (Release PAUSE Button).
5. Adjust the RECORD Level Controls for 0 dB at the OUTPUT jacks.
6. Record about 10 seconds of this signal.
7. Rewind the Tape. During playback, check for a 0 dB output.
8. If incorrect, adjust VR-102/202 (on Limiter Record Ampl PC Bd) as necessary. Repeat steps 6 through 8 until the 0 dB output is obtained during playback.

BIAS/EQ SW 2 position (Regular Tape)

Test Tape . . . . . . TEAC MTT-501
BIAS/EQ SW 2
Adjust VR-101/201 (on Limiter Record Ampl PC Bd) as in BIAS/EQ SW 1 position

7-18 DISTORTION CHECKS

For CrO_2 Tape:

1. Connect a distortion analyzer to the OUTPUT jacks.
2. Connect an AF oscillator to the LINE IN jacks, through an attenuator.
3. Load a TEAC MTT-505 Test Tape on the unit.
4. Place the BIAS/EQ SW to the 1 position.
5. Apply a 400 Hz signal to LINE IN jacks at 3 dB below the specified Input Level (–12 dB 194 mV).
6. Place the unit in the record mode for about 10 seconds.
7. Rewind and play this recorded section of the Tape.
8. Read the indicated value on the distortion analyzer.
9. The distortion factor should be 2.5% or less.
   Repeat above procedure with following changes.

For Regular Tape:

Test Tape MTT-501
BIAS/EQ SW 2
Distortion factor . . . . . . 2.5% or less

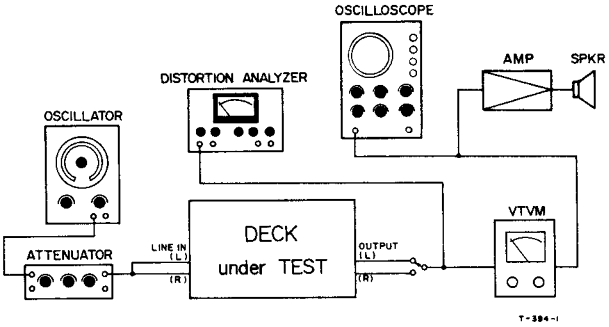


Fig. 7-10 Distortion Check Setup

7-19 BIAS LEAKAGE CHECK

1. Remove input signal, depress the PAUSE Button, then depress and hold the REC Button and move STOP-PLAY Lever to PLAY position.
2. Check for minimum bias leakage reading at OUTPUT jacks.
3. Spec. –45 dB (4.35 mV) or less.

7-20 OVERALL SIGNAL-TO-NOISE RATIO

For CrO_2 Tape:

1. Load a TEAC MTT-505 Test Tape in the unit.
2. Connect a VTVM to the OUTPUT jacks.
3. Place the BIAS/EQ SW to 1, DOLBY NR SW to OUT position.
4. Place the unit in the record mode with no signal applied for a few seconds.
5. Rewind and play this recorded section of the tape.
6. The VTVM should indicate –45 dB (4.35 mV) or higher. This –45 dB corresponds to a signal-to-noise ratio of 48 dB: the difference between residual noise of –45 dB and the specified output Level +3 dB (1.1 V).

7-21 ERASE EFFICIENCY

NOTE: To measure erase efficiency, a 1 kHz narrow bandpass filter should be used. The Test signal delivered from the AF oscillator should be tuned to the filter used.

1. Connect an AF oscillator to the LINE IN jacks, through an attenuator.
2. Connect a VTVM to the OUTPUT jacks, through a 1 kHz narrow bandpass filter.
3. Load a TEAC MTT-505 Test Tape in the unit.
4. Place the BIAS/EQ SW to the 1 position.
5. Place the unit in the record mode.
6. Apply a 1 kHz signal to LINE IN jacks at 10 dB above the specified Input Level (+1 dB 0.869 V).
7. Rewind the Tape to the mid-point of the recording and remove the signal from the LINE IN jacks.
8. Place the unit in the record mode and record through this previously recorded portion with no input signal applied.
9. Rewind the Tape to the starting point of the 1 kHz signal recorded portion.
10. Play the Tape and read the indication on the VTVM to obtain the output level of both the unerased portion and the erased portion of the recorded portion.
11. Compare the indication differences between the two portions.
12. The difference should be 65 dB or more.

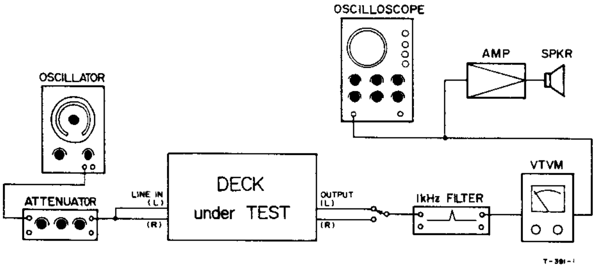


Fig. 7-11 Erase Efficiency Check Setup

7-22 OVERALL FREQUENCY RESPONSE CHECK

BIAS/EQ SW 1 position (CrO$_2$ Tape)

1. Load a TEAC MTT-505 Test Tape in the unit, Place BIAS/EQ SW to the 1 position.
2. Apply a signal swept from 40 Hz to 14 kHz to LINE IN jacks at 33 dB below the specified input Level (–42 dB 6.15 mV) and record it on the Test Tape and playback the recording.
3. Check that overall response corresponds to applicable chart on the right.
4. If the response is not uniform, the heads should be cleaned of accumulated oxide and dirt.
   Then repeat the Bias adjustment procedures.

BIAS/EQ SW 2 position (Regular Tape)

Test Tape MTT-501
BIAS/EQ SW 2
Test Signal . . . . . . 40 Hz to 12.5 kHz

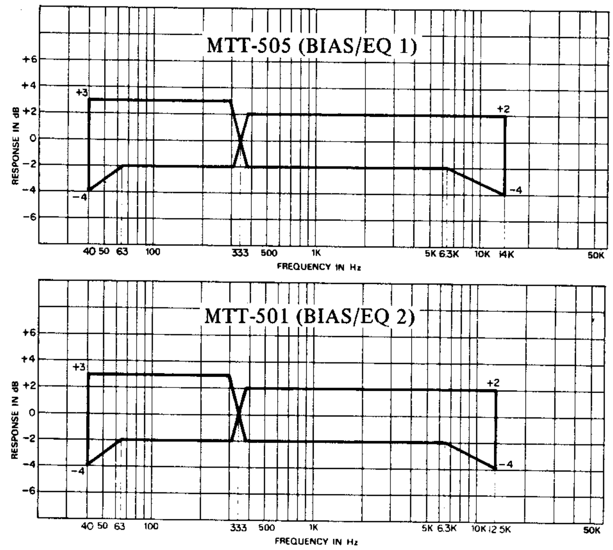


Fig. 7-12 Frequency Response Limits
RECORD-PLAY

7-23 CHANNEL SEPARATION

1. Connect an AF oscillator to the left channel LINE IN jack, through an attenuator.
2. Connect a VTVM to the OUTPUT jacks, through a 1 kHz narrow bandpass filter.
3. Load a completely erased or de-gaussed MTT-505 Test Tape in the unit.
4. Place the BIAS/EQ SW to 1 position.
5. Apply a 1 kHz Test tone at –9 dB (274 mV) into the left channel.
6. Record 30 seconds of a 1 kHz signal.
7. Rewind and playback this recorded portion of the tape and note the Output level.
8. Play the Tape and read the indication on the VTVM connected to the right channel OUTPUT jack.
9. The VTVM should indicate –27 dB (34.5 mV) or more.
10. This corresponds to the channel separation of 30 dB or more (with reference to the specified output level +3 dB, 1.1 V).

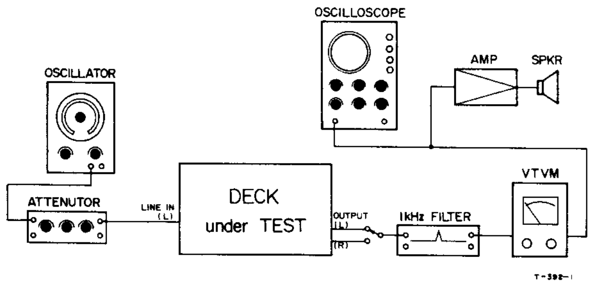


Fig. 7-13 Channel Separation Check Setup

7-24 CROSSTALK BETWEEN ADJACENT TRACKS

1. Connect an AF oscillator to the right channel LINE IN jack, through an attenuator.
2. Connect a VTVM to the right channel OUTPUT jack.
3. Load a completely erased or de-gaussed TEAC MTT-505 Test Tape in the unit.
4. Place the BIAS/EQ SW to the 1 position.
5. Apply a 125 Hz Test signal at –9 dB (274 mV) into the right channel.
6. Make a recording of 30 seconds of a 125 Hz signal.
7. Remove the MTT-505 Test Tape, turn it over and replace it in the unit. Play the Tape back.
8. While playing the Tape, read the indication on the VTVM.
9. The VTVM should indicate –37 dB (10.9 mV).
10. This corresponds to the adjacent track crosstalk of 40 dB (with reference to the specified output level of +3 dB, 1.1 V).

NOTE: The Tape must be completely erased or demagnetized prior to this procedure.

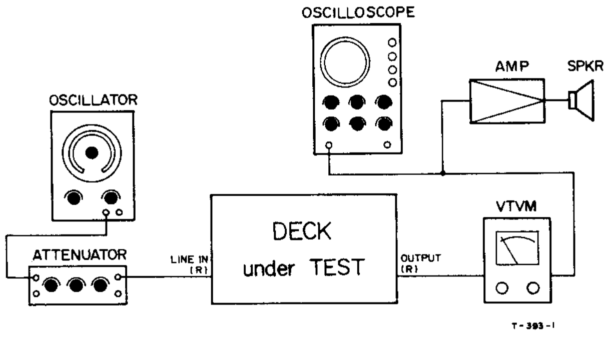


Fig. 7-14 Crosstalk Check Setup

7-25 DOLBY NR SYSTEM EFFICIENCY CHECKS

1. Connect an AF oscillator to the LINE IN jacks, through an attenuator.
2. Connect a VTVM to the OUTPUT jacks.
3. Load a TEAC MTT-505 Test Tape in the unit.
4. Place the BIAS/EQ SW to the 1 position and the DOLBY NR SW to the OUT position.
5. Apply a 1 kHz signal at –29 dB (27.4 mV).
6. Record this signal.
7. Rewind the tape to the starting point of the recorded section.
8. Play this recorded section of the tape.
9. While playing the 1 kHz signal, read the indication of the output level on the VTVM with the DOLBY NR SW at IN and OUT positions.
10. The output level should vary 3 to 8 dB between the IN and OUT positions (The output level in the IN position should be lower than the OUT position).
11. Repeat the above procedure changing the applied Test signal to 10 kHz at –39 dB (8.69 mV).
12. The variation should be 8 to 12 dB.

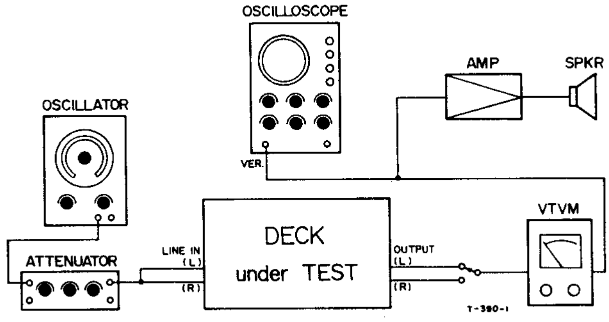


Fig. 7-15 Dolby NR System Efficiency Check Setup

7-26 LIMITER EFFICENCY CHECK

1. Place the LIMITER SW to IN position.
2. Apply a 400 Hz Test signal at –3 dB (548 mV) to the LINE IN jacks.
3. Record this signal.
4. Check for Playback level of +5 dB (1.37 V) or less.
5. Limiter efficiency: 4 dB or more

8. TROUBLE SHOOTING

The following guide lists specific difficulties that could occur in the PC-10. Possible causes are listed for each malfunction. Visually inspect the unit for any damage such as broken or burned components or wiring, loose connections, etc.

MECHANICAL

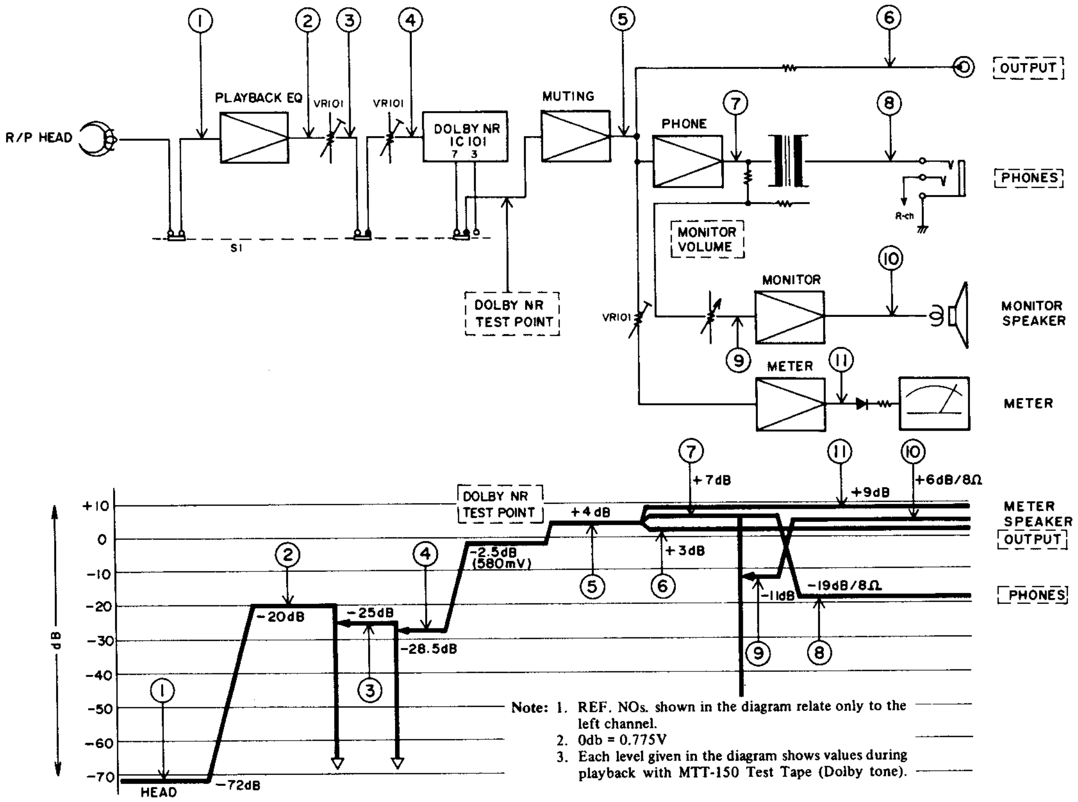
Fuse burns out (blows) in AC Adaptor (PA-2) when power applied	Defective power transformer, rectifying circuit of PA-2 or DC-DC converter defective
Auto-Stop does not function	+B current not present at Anode of SCR → +B current not present at Anode of SCR on Auto-Stop circuit → Defective R-303/D-304 SCR not defective but solenoid does not function → Defective S106 or solenoid Solenoid does not function even when Anode and Cathode of SCR are shorted together
Tape winds around capstan shaft	Pinch roller, Take-up reel table, Idler slipping or Tape guide (run) incorrect
Wow/Flutter excessive	Improper pinch roller pressure, defective Motor Servo circuit, oily or defective parts
Capstan motor will not rotate	Defective Capstan motor ass'y
Counter does not rotate	Defective counter ass'y, counter belt-off or slipping

ELECTRICAL

Fast forward or Rewind modes inoperative	Defective S104 or S105, defective Reel motor
Playback audio intermittent or absent	
a) If source MONITOR function normal	Defective play EQ ampl, faulty head or wiring
b) If source MONITOR function inoperative	Defective Muting circuit or Meter Monitor ampl.
VU Meter inoperative in Play mode	Faulty meter or wiring, defective Meter ampl.
High frequencies weak or missing in playback	Defective playback EQ circuit, Too weak response → Dirty head or defective head Low response too weak including level variation → Poor tape-to-head contact
Playback noise or hum	Faulty connections, faulty playback head or dirty, defective playback EQ ampl.
Record audio intermittent or absent	If Bias sw position changed, can not record → Defective BIAS SW, trimmer condenser or associated parts defective Faulty Erase function → Defective Bias OSC Normal Erasing → Correct Monitor sound Dirty head, defective record Ampl. or head

9. LEVEL DIAGRAMS

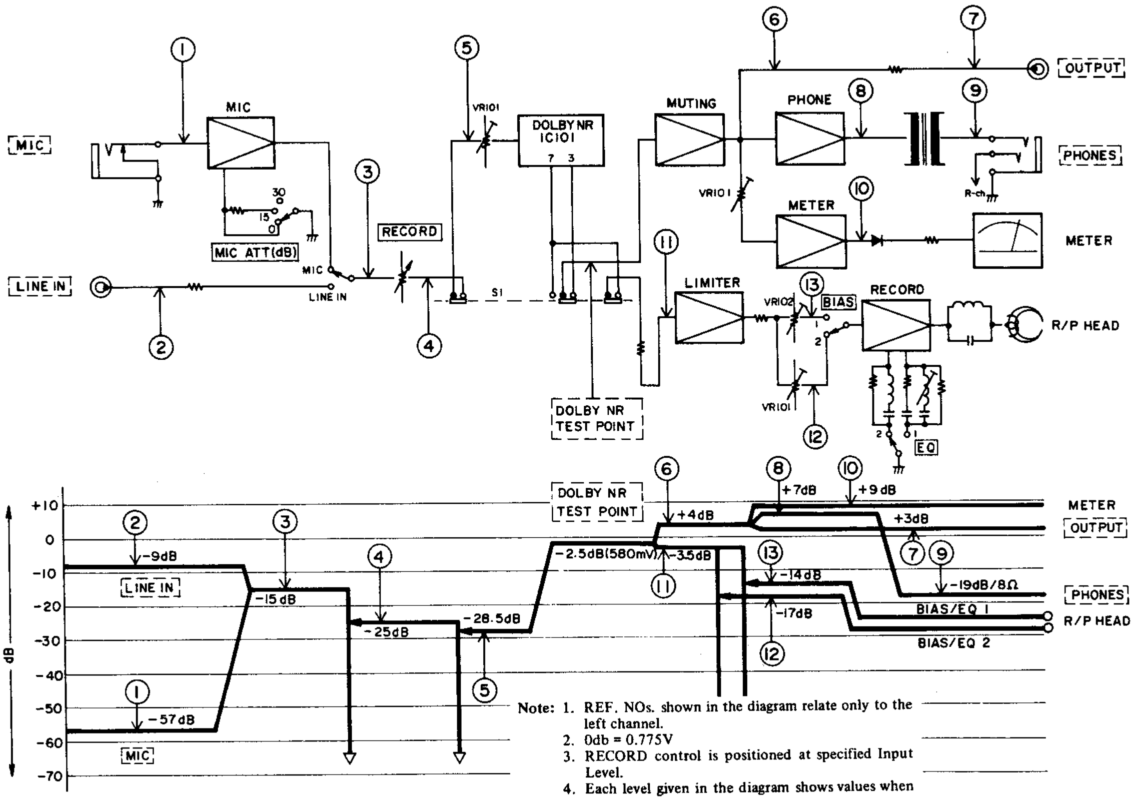
PLAYBACK



R/P HEAD
PLAYBACK EQ
VR101
DOLBY NR IC101 7 3
MUTING
PHONE
S1
DOLBY NR TEST POINT
MONITOR VOLUME
MONITOR
METER
VR101
OUTPUT
PHONES
R-ch
MONITOR SPEAKER
METER
+10
0
-10
-20
-30
-40
-50
-60
-70
dB
HEAD
-72dB
-20dB
-25dB
-28.5dB
-2.5dB (580mV)
+4dB
+3dB
+7dB
+9dB
+6dB/8Ω
-11dB
-19dB/8Ω
METER
SPEAKER
OUTPUT
PHONES
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪

Note:
1. REF. NOs. shown in the diagram relate only to the left channel.
2. 0db = 0.775V
3. Each level given in the diagram shows values during playback with MTT-150 Test Tape (Dolby tone).

OVERALL



MIC
LINE IN
MIC
MIC ATT(dB)
30
15
0
RECORD
MIC
LINE IN
VR101
DOLBY NR IC101 7 3
S1
DOLBY NR TEST POINT
MUTING
PHONE
METER
VR101
LIMITER
VR102
BIAS
RECORD
VR101
EQ
OUTPUT
PHONES
R-ch
METER
R/P HEAD
+10
0
-10
-20
-30
-40
-50
-60
-70
dB
-9dB
LINE IN
-15dB
-25dB
-28.5dB
-57dB
MIC
-2.5dB(580mV)
-3.5dB
+4dB
+7dB
+9dB
+3dB
-14dB
-17dB
-19dB/8Ω
BIAS/EQ 1
BIAS/EQ 2
METER
OUTPUT
PHONES
R/P HEAD
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫
⑬

Note:
1. REF. NOs. shown in the diagram relate only to the left channel.
2. 0db = 0.775V
3. RECORD control is positioned at specified Input Level.
4. Each level given in the diagram shows values when 400Hz Specified Input Level is applied.

harman/kardon

SERVICE BULLETIN

ISSUE NO.	JP - 7
DATE	Dec. 11, 1981
PAGE	1 OF 1

APPLICABLE MODEL: PM650 and PM660 HI-CURRENT CAPABILITY
INTEGRATED AMPLIFIER

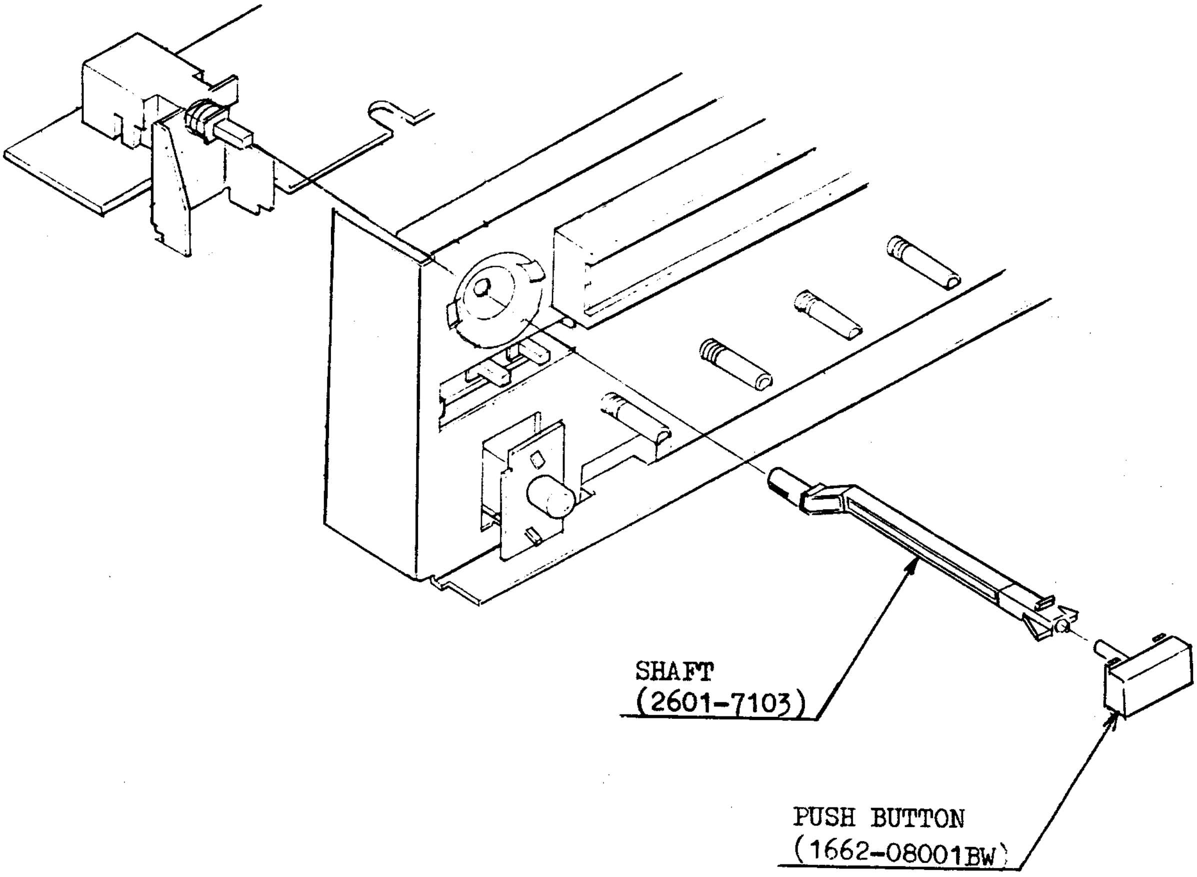
SUBJECT: CHANGE OF POWER SWITCH BUTTON MECHANISM

The mechanism of power switch button was changed.

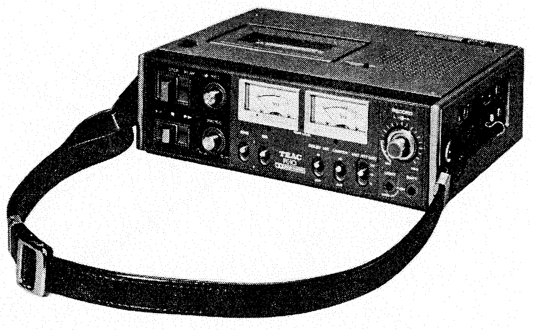
The button is locked in the new mechanism when depressing it to ON position while the button in the old mechanism is not locked.

This change is applicable from the unit whose serial No. is after 2001 for PM650 and PM660.

The exploded view and parts No. of the new mechanism for power switch button as follows.



TEAC®



PC-10

Portable Cassette Recorder with Dolby System

PARTS LIST

TABLE OF CONTENTS

1. EXPLODED VIEWS AND PARTS LIST 2-11

2. PC BOARD SECTION
   1. POWER SUPPLY 12, 16
   2. DOLBY B TYPE PROCESSOR 12, 16
   3. METER MONITOR AMPLIFIER 13, 17
   4. LIMITER RECORD AMPLIFIER 13, 18
   5. PLAYBACK AMPLIFIER 14, 18
   6. MIC AMPLIFIER 14, 19
   7. AUTO STOP PC BOARD 14, 19
   8. MUTING PC BOARD 14, 20
   9. SERVO CONTROL 15, 20
   10. PANEL PC BOARD 15, 21
   11. SWITCHING REGULATOR (PA-2) 16, 22

INCLUDED ACCESSORIES 11
ASSEMBLING HARDWARE CODING LIST 23

PARTS ORDERING INFORMATION

Spare parts are available through your nearest TEAC Authorized Service Center or directly from the TEAC office, the address of which is written on the back cover. When ordering parts, always include the following information:

1. MODEL
2. REF. NO.
3. PARTS NO.
4. DESCRIPTION
5. UNIT SERIAL NO.
6. MANUAL CODE NO.

NOTICE REGARDING PARTS ORDERS

1. Do not order by only REF. NO.
2. In some instances, individual minor parts are not available. In such a case, the entire assembly including the part requested will be sent to you.
3. PC board diagrams are shown viewed from foil side.

PARTS IDENTIFICATION CODING

Parts are identical between the different models except for parts coded with one of the following designations.

JAPAN	Japan market decks only.
U.S.A.	U.S.A. version only.
CANADA	CANADA version only.
EUROPE	European market decks.
EXPORT	All decks not specified above.

Parts marked with *require longer delivery time than regular parts.

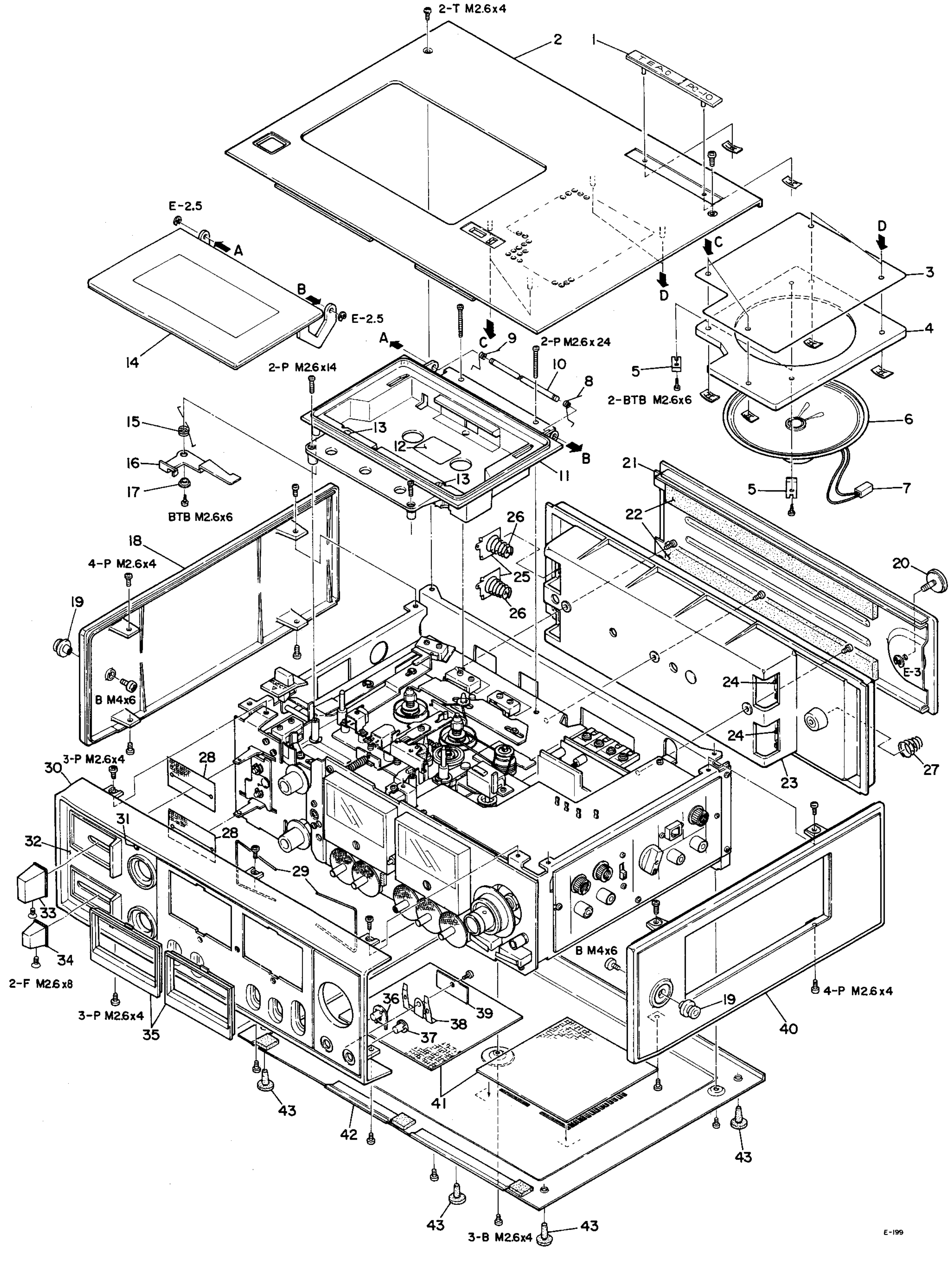
Effective: July 1976
PC-036

TEAC CORPORATION

51031720

1. EXPLODED VIEWS AND PARTS LIST

EXPLODED VIEWS 1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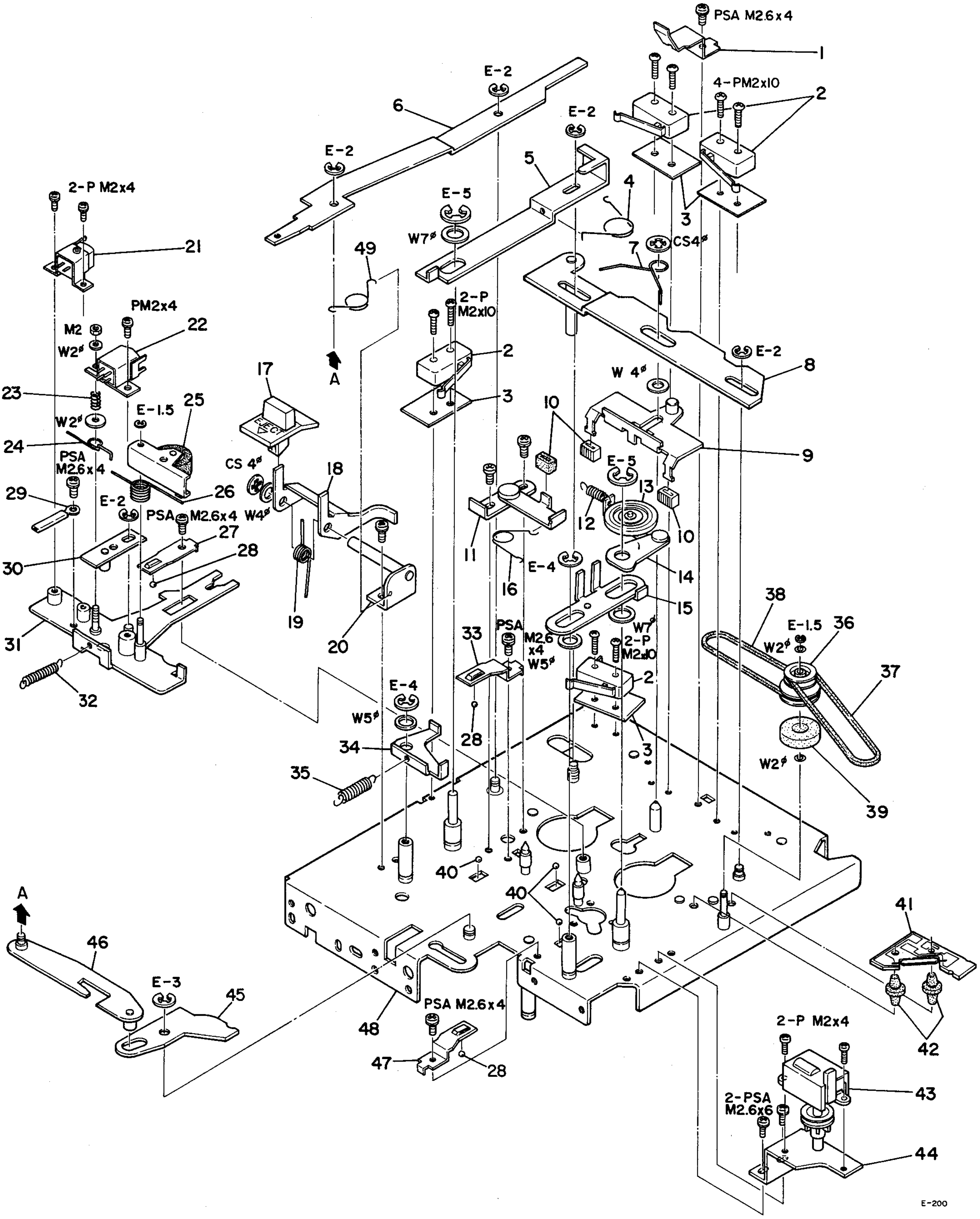
2
1
TEAC PC-10
E-2.5
A
B
E-2.5
D
C
D
3
4
14
A
C
9
2-P M2.6x24
10
8
2-P M2.6x14
5
2-BTB M2.6x6
6
15
13
12
B
16
13
11
21
5
7
17
BTB M2.6x6
22
26
18
25
4-P M2.6x4
26
20
19
E-3
B M4x6
24
24
3-P M2.6x4
28
23
27
30
31
32
28
29
33
34
2-F M2.6x8
B M4x6
19
4-P M2.6x4
3-P M2.6x4
35
36
39
38
37
40
41
43
42
43
43
3-B M2.6x4
43
E-199

PARTS LIST 1

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
1 - 1	* 55641200	Plate, Name	JAPAN, EXPORT, EUROPE
	55043330	Plate Assy, Name	U.S.A., CANADA (ESOTERIC SERIES)
1 - 2	55020440	Cover Assy, Top	JAPAN, EXPORT, EUROPE
	55021070	Cover Assy, Top	U.S.A., CANADA (ESOTERIC SERIES)
1 - 3	* 55545090	Mask, Speaker	
1 - 4	* 55330230	Holder, Speaker	
1 - 5	* 55545100	Clamper, Speaker	
1 - 6	* 57222380	Monitor Speaker	
1 - 7	* 51220200	Connector, Socket; Speaker	
1 - 8	55202950	Spring, Cassette Cover; A	
1 - 9	55202960	Spring, Cassette Cover; B	
1 - 10	* 55443010	Shaft, Cassette Cover	
1 - 11	55310050	Holder, Cassette	
1 - 12	55544890	Indicator, Tape Run	
1 - 13	* 55500580	Cushion, Cover	
1 - 14	55030270	Lid Assy, Cassette	JAPAN, EXPORT, EUROPE
	55030860	Lid Assy, Cassette	U.S.A., CANADA (ESOTERIC SERIES)
1 - 15	55202971	Spring, Cassette Cover Release	
1 - 16	* 55544880	Lever, Cassette Cover Release	
1 - 17	* 55441200	Washer, Shoulder	
1 - 18	55320151	Panel, Side; Left	
1 - 19	* 55443030	Hook	
1 - 20	55443020	Screw, Battery Cover	
1 - 21	55030290	Cover Assy, Battery	
1 - 22	55341580	Cushion, Battery	
1 - 23	55310030	Case, Battery	
1 - 24	55545020	Terminal, Battery; +	
1 - 25	55545030	Terminal, Battery; -	
1 - 26	55202710	Spring, Battery	
1 - 27	55202990	Spring, Battery Cover	
1 - 28	55545070	Mask, Lever	
1 - 29	55202980	Clamp, Meter Escutcheon	
1 - 30	55310040	Panel, Front	JAPAN, EXPORT, EUROPE
	55330690	Panel, Front	U.S.A., CANADA (ESOTERIC SERIES)
1 - 31	55341700	Lens, Record Indicator	
1 - 32	55545050	Panel, Operation	
1 - 33	55341620	Knob, Operation Lever; A	
1 - 34	55341630	Knob, Operation Lever; B	
1 - 35	55330240	Escutcheon, Meter	
1 - 36	* 55341600	Button, Light	
1 - 37	* 55341610	Button, Battery Check	
1 - 38	* 55545060	Spring, Button	
1 - 39	55546760	Plate, Button	
1 - 40	55320161	Panel, Side; Right	
1 - 41	55545140	Mask, Bottom Cover	
1 - 42	55020450	Cover Assy, Bottom	
1 - 43	50285540	Mount Foot	

EXPLODED VIEWS 2


PSA M2.6x4
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4-PM2x10
2
3
E-2
6
E-2
5
4
E-2
2-P M2x4
21
E-5
W7ø
7
CS4ø
49
2-P
M2x10
PM2x4
22
M2
W2ø
A
2
E-2
8
W 4ø
23
17
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9
25
E-1.5
W2ø
24
PSA
M2.6x4
CS 4ø
18
E-5
26
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E-2
PSA M2.6x4
W4ø
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E-4
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E-1.5
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W7ø
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PSA
M2.6
x4
W5ø
2-P
M2x10
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W2ø
37
32
E-4
W5ø
3
34
28
W2ø
39
35
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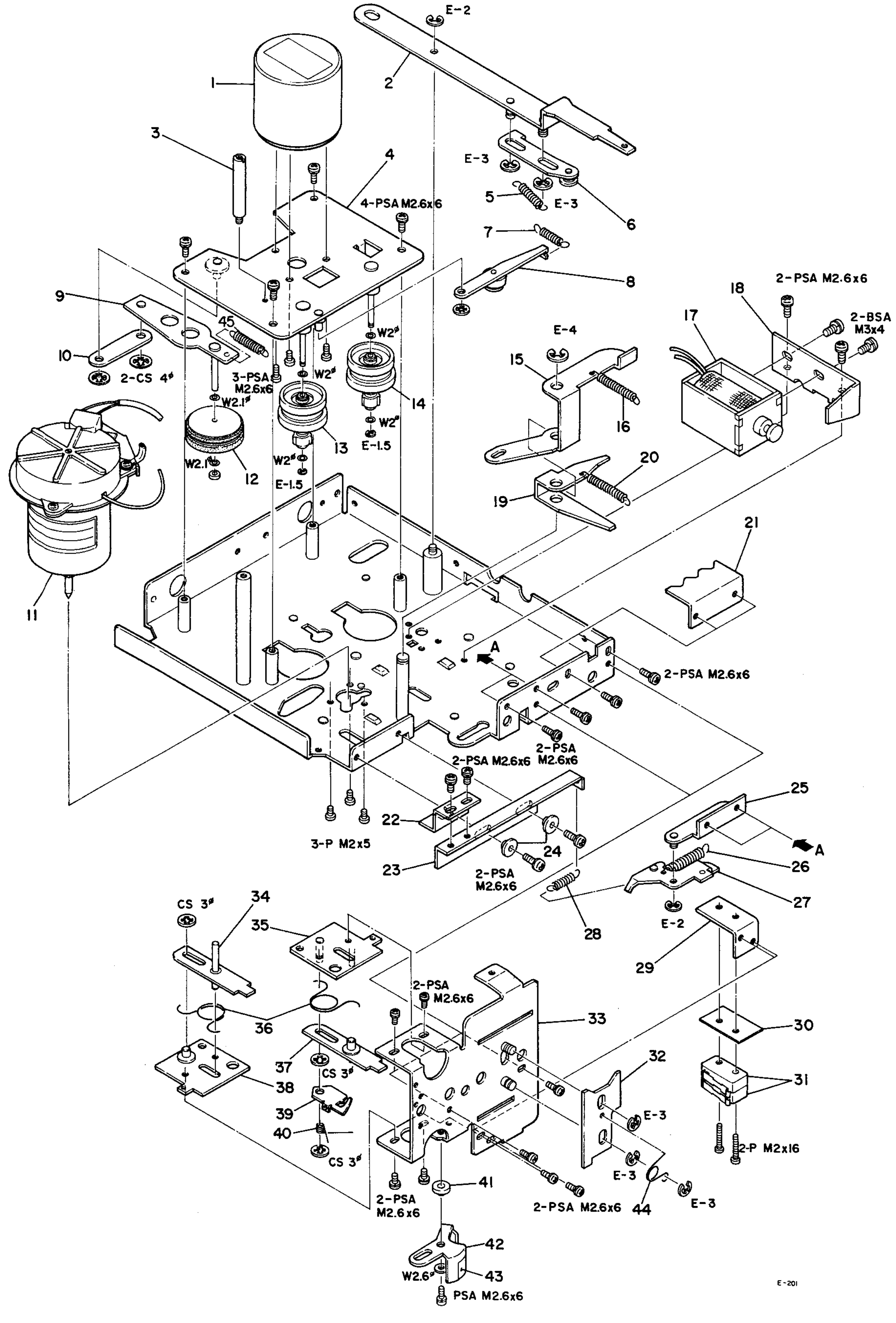
40
A
41
46
E-3
45
48
PSA M2.6x4
42
2-P M2x4
47
28
43
2-PSA
M2.6x6
44
E-200

PARTS LIST 2

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
2 - 1	55544860	Plate, Spring	
2 - 2	* 50446540	Switch, Micro	
2 - 3	* 55500251	Spacer, Insulator	
2 - 4	55202891	Spring, Record Lever	
2 - 5	* 55544752	Lever, Record; A	
2 - 6	* 55544610	Lever, Play	
2 - 7	55202850	Spring, Brake	
2 - 8	* 55042390	Lever Assy, Switch; Fast Wind	
2 - 9	* 55042400	Arm Assy, Brake	
2 - 10	55341160	Brake Shoe	
2 - 11	* 55042360	Lever Assy, Stopper; Head Base Plate	
2 - 12	* 55202900	Spring, Idler	
2 - 13	55042430	Idler Assy	
2 - 14	* 55042420	Lever Assy. Idler	
2 - 15	* 55042441	Lever Assy, Idler Actuator	
2 - 16	55202830	Spring, Back Tension Actuator	
2 - 17	* 55330340	Knob, Eject	
2 - 18	* 55544840	Lever, Eject	
2 - 19	55202941	Spring, Eject	
2 - 20	* 55042461	Shaft Assy, Eject	
2 - 21	50663070	Head, Erase	
2 - 22	50660190	Head, Record/Playback	
2 - 23	55200021	Spring, Head Adjust.	
2 - 24	55202780	Spring, Absorber	
2 - 25	55040700	Pinch Roller Assy	
2 - 26	55202790	Spring, Pinch Roller	
2 - 27	* 55500060	Plate Spring, Center	
2 - 28	55400550	Steel Ball	
2 - 29	* 50279870	Retainer, Leads; D	
2 - 30	* 55042290	Plate Assy, Head Base Actuator	
2 - 31	* 55042280	Plate Assy, Head Base	
2 - 32	55202770	Spring, Head Base Plate	
2 - 33	* 55500050	Plate Spring, Left	
2 - 34	* 55544760	Lever, Record Preventing	
2 - 35	55202880	Spring, Record Preventing Lever	
2 - 36	55341560	Pulley	
2 - 37	55341540	Belt, Index Counter; A	
2 - 38	55341550	Belt, Index Counter; B	
2 - 39	50152392	Magnet	
2 - 40	55400560	Steel Ball	
2 - 41	* 51683160	PC Board Assy, Reed Switch	
	50447350	Reed Switch	Part of above ass'y
2 - 42	* 55341640	Standoff, PC Board	
2 - 43	55030260	Counter Assy, Index	
2 - 44	* 55545220	Plate, Index Counter	
2 - 45	* 55544630	Lever, Play Lock	
2 - 46	* 55042350	Arm Assy, Play	
2 - 47	* 55500050	Plate Spring, Right	
2 - 48	* 55020431	Chassis Assy, Tape Deck	
2 - 49	55202820	Spring, Play Lever	

EXPLODED VIEWS 3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E-3
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E-3
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7
8
18
2-PSA M2.6x6
17
2-BSA M3x4
9
45
E-4
15
10
2-CS 4ø
3-PSA M2.6x6
W2ø
W2ø
W2.1ø
14
16
W2ø
E-1.5
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W2.1ø
12
W2ø
E-1.5
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19
11
21
A
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2-PSA M2.6x6
2-PSA M2.6x6
22
3-P M2x5
24
23
2-PSA M2.6x6
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A
26
27
28
E-2
CS 3ø
34
35
29
2-PSA M2.6x6
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36
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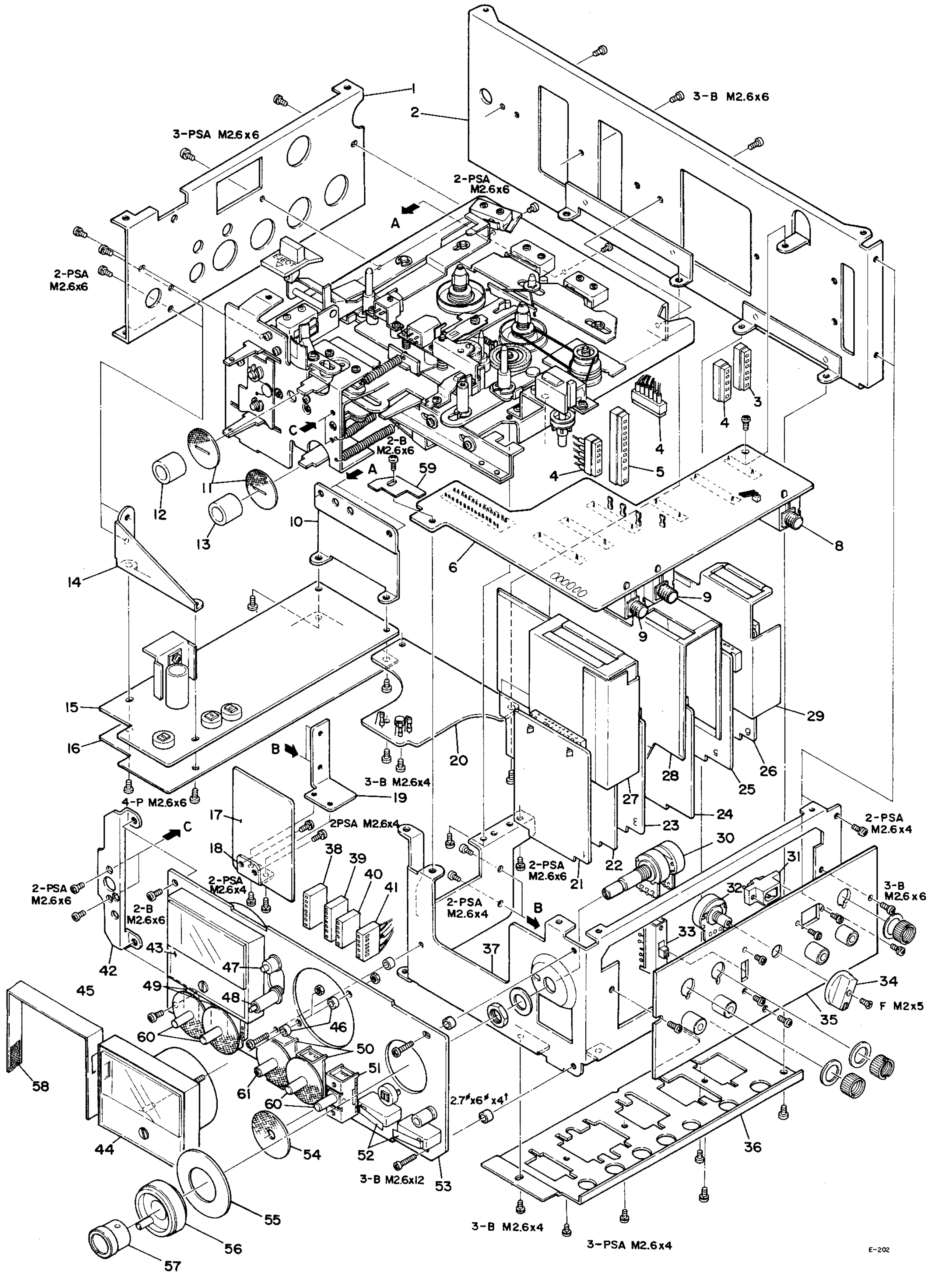
37
CS 3ø
38
32
31
39
E-3
40
CS 3ø
2-P M2x16
E-3
41
2-PSA M2.6x6
2-PSA M2.6x6
44
E-3
42
W2.6ø
43
PSA M2.6x6
E-201

PARTS LIST 3

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
3 - 1	71051080	Motor, Reel	
3 - 2	* 55042370	Lever Assy, Fast Wind	
3 - 3	* 55443000	Stud, PC Board	
3 - 4	* 55042660	Plate Assy, Motor Base	
3 - 5	55202840	Spring, Fast Wind Lock	
3 - 6	* 55042380	Plate Assy, Lock; Fast Wind	
3 - 7	55202740	Spring, Guide Roller	
3 - 8	55042700	Roller Assy, Guide	
3 - 9	* 55042710	Arm Assy, Fast Wind; A	
3 - 10	* 55545740	Arm, Fast Wind; B	
3 - 11	71061072	Motor Assy, Capstan	
3 - 12	55042720	Pully Assy, Fast Wind	
3 - 13	55042671	Reel Table Assy, Takeup	
3 - 14	55042680	Reel Table Assy, Supply	
3 - 15	* 55544800	Lever, Pause	
3 - 16	55203010	Spring, Pause Lever	
3 - 17	51630080	Solenoid Assy, Auto Stop	
3 - 18	* 55544830	Plate, Solenoid Assy	
3 - 19	* 55544820	Lever, Auto Stop	
3 - 20	55202930	Spring, Auto Stop Lever	
3 - 21	* 55544680	Plate, Fast Wind Lock	
3 - 22	* 55544740	Plate, Record Switch	
3 - 23	* 55544730	Slide Plate, Record Switch	
3 - 24	* 55442941	Spacer, Slide Plate	
3 - 25	* 55042410	Plate Assy, Record Actuator	
3 - 26	55202870	Spring, Record Switch; B	
3 - 27	* 55544720	Lever, Record; B	
3 - 28	55202860	Spring, Record Switch; A	
3 - 29	* 55545190	Plate, Micro Switch	
3 - 30	* 55500251	Spacer, Insulator	
3 - 31	* 50446540	Switch, Micro	
3 - 32	* 55544570	Plate, Mis-operation Preventing	
3 - 33	* 55042300	Plate Assy, Operation	
3 - 34	* 55042330	Plate Assy, Operation; Record	
3 - 35	* 55042321	Plate Assy, Operation Lever; B	
3 - 36	55202800	Spring, Operation	
3 - 37	* 55042340	Plate Assy, Operation; Pause	
3 - 38	* 55042311	Plate Assy, Operation Lever; A	
3 - 39	* 55500270	Plate, Pause Lock	
3 - 40	55202910	Spring, Pause Lock Plate	
3 - 41	* 55442780	Spacer, Record Plate	
3 - 42	* 55545170	Plate, Record Indicator	
3 - 43	* 55544580	Indicator, Record	
3 - 44	55202810	Spring, Mis-operation Preventing Plate	
3 - 45	55202730	Spring, Roller Arm	

EXPLODED VIEWS 4



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3-PSA M2.6x6
2-PSA M2.6x6
A
2-PSA M2.6x6
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4
4
4
5
C
2-B M2.6x6
A
59
11
12
13
10
6
8
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9
15
16
29
26
25
28
27
24
23
20
B
3-B M2.6x4
19
4-P M2.6x6
C
17
2PSA M2.6x4
2-PSA M2.6x4
18
38
39
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22
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2-B M2.6x6
2-PSA M2.6x4
B
33
37
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F M2x5
35
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60
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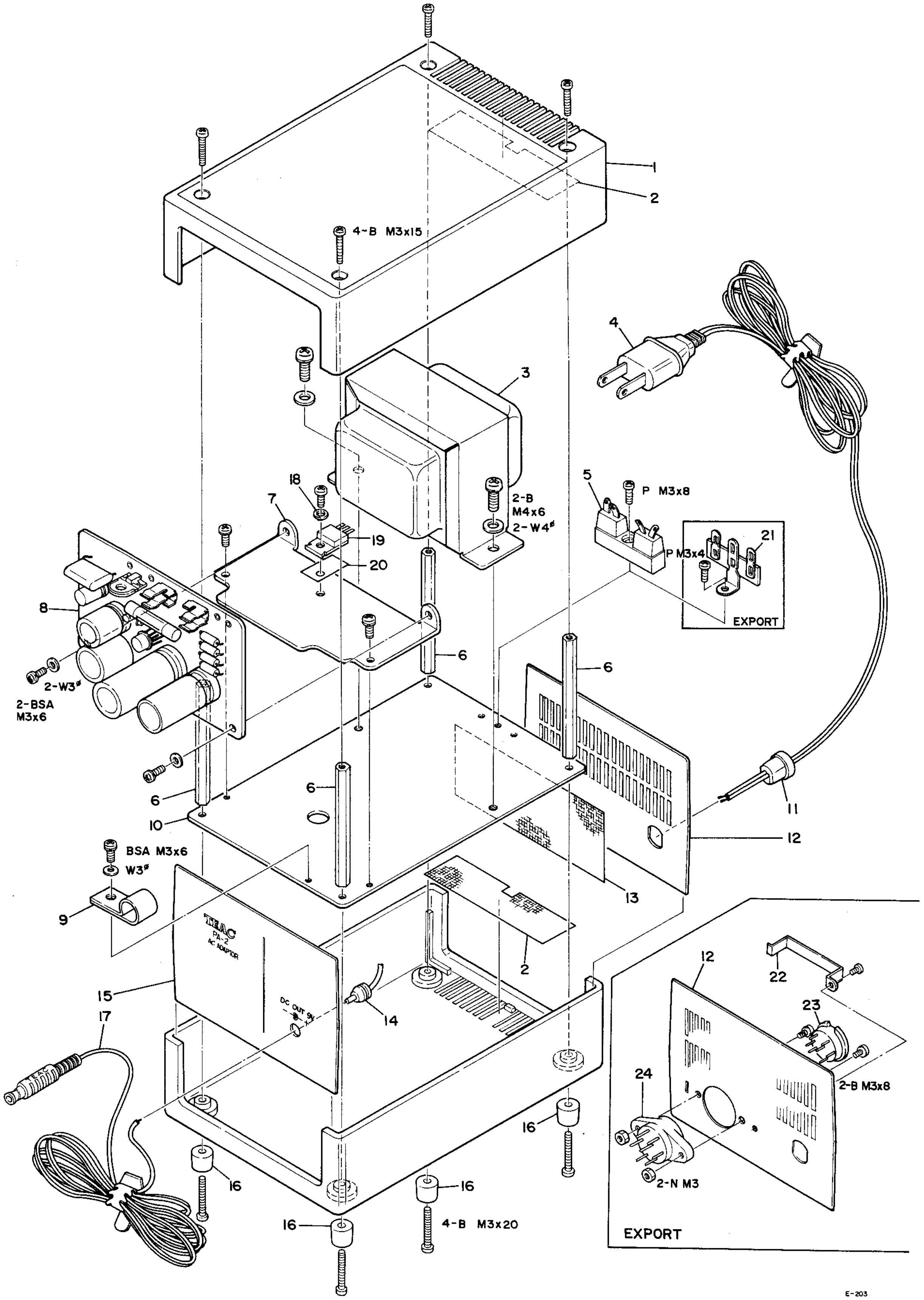
2.7φx6φx4t
44
54
52
53
3-B M2.6x12
36
55
56
57
3-B M2.6x4
3-PSA M2.6x4
E-202

PARTS LIST 4

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
4 - 1	* 55530470	Chassis, Side	
4 - 2	* 55030280	Chassis Assy, Rear	
4 - 3	* 51220030	Connector, Socket; 6P	
4 - 4	* 51220060	Connector, Socket; 5P	
4 - 5	* 51220080	Connector, Socket; 10P	
4 - 6	* 51683000	PC Board Assy, Mother	
	51673000	PC Board	Part of above ass'y
	51310340	Switch, Slide 10P DT	"
	51220120	Connector, Plug; 10P (4 used)	"
	51220100	Connector, Plug; 6P (2 used)	"
	51220190	Connector, Plug; Speaker	"
	51220200	Connector, Socket; Speaker	"
	57240420	Pin, F3 Type (5 used)	"
4 - 7	* 51220190	Connector Plug, Speaker	
4 - 8	* 51240200	Connector, Phones Jack	
4 - 9	* 51240190	Connector, Mic Jack	
4 - 10	* 55544990	Bracket, Servo Control PC Board; A	
4 - 11	55545151	Mask, Button	
4 - 12	55443050	Button, Record	
4 - 13	55443040	Button, Pause	
4 - 14	* 55545000	Bracket, Servo Control PC Board; B	
4 - 15	* 51683122	PC Board Assy, Servo Control	
4 - 16	* 55545181	Shield Paper, PC Board	
4 - 17	* 51683100	PC Board Assy, Muting	
4 - 18	* 55544980	Bracket, Muting PC Board; B	
4 - 19	* 55547000	Bracket, Muting PC Board; A	
4 - 20	* 51683110	PC Board Assy, Auto-stop	
4 - 21	* 51683020	PC Board Assy, Mic Ampl.	
4 - 22	* 51683030	PC Board Assy, Playback EQ Ampl.	
4 - 23	* 51683040	PC Board Assy, Dolby B-type Processor	
4 - 24	* 51683050	PC Board Assy, Limiter Record	
4 - 25	* 51683083	PC Board Assy, Meter Monitor Ampl.	
4 - 26	* 51683091	PC Board Assy, Power Supply	
4 - 27	* 55544930	Shield Paper, A	
4 - 28	* 55544940	Shield Paper, B	
4 - 29	* 55544950	Shield Paper, C	
4 - 30	* 51501190	Var. Res., 100k ohm A x 2	
4 - 31	* 51240210	Connector, DC Power Socket	
4 - 32	* 51501180	Var. Res., Monitor; 20k ohm - A	
4 - 33	* 51310350	Switch, Slide	
4 - 34	* 55341590	Knob, Monitor Var. Res.	
4 - 35	* 51240180	Plate, Jack Mounting	
4 - 36	* 55544920	Plate, PC Board	
4 - 37	* 55520641	Chassis, Ampl.	
4 - 38	* 51220180	Connector, Socket; A	
4 - 39	* 51220220	Connector, Socket; B	
4 - 40	* 51220160	Connector, Socket; C	
4 - 41	* 51220210	Connector, Socket; D	
4 - 42	* 55544961	Bracket, Front PC Board	
4 - 43	* 51650180	Meter, VU	
4 - 44	* 51650190	Meter, VU (Marked BATT)	
4 - 45	* 55546950	Cover, Meter	
4 - 46	* 55443911	Spacer, Meter	
4 - 47	* 51420930	Lamp	
4 - 48	* 51430951	LED	
4 - 49	* 51320130	Switch, Lever	
4 - 50	* 51320150	Switch, Lever	
4 - 51	* 51320140	Switch, Lever	
4 - 52	* 50546320	Switch, Micro	
4 - 53	* 51683011	PC Board Assy, Front	
4 - 54	55545040	Mask, Lever Switch	
4 - 55	55545160	Mask, Var. Res.	
4 - 56	55042481	Knob Assy, Var. Res.; Right	
4 - 57	55042470	Knob Assy, Var. Res.; Left	
4 - 58	* 55546960	Connecting Paper, Meter Cover	
4 - 59	* 55546990	Plate, Front PC Board	
4 - 60	55443120	Knob, Lever Switch; A	
4 - 61	55443130	Knob, Lever Switch; B	

EXPLODED VIEWS 5 (PA-2)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18
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19
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2-B
M4x6
2-W4ø
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P M3x8
P M3x4
21
EXPORT
8
2-W3ø
2-BSA
M3x6
6
6
6
6
10
BSA M3x6
W3ø
9
11
12
13
2
TEAC
PA-2
AC ADAPTOR
DC OUT 9V
15
17
14
16
16
16
16
4-B M3x20
12
22
23
2-B M3x8
24
2-N M3
EXPORT

E-203

PARTS LIST 5 (PA-2)

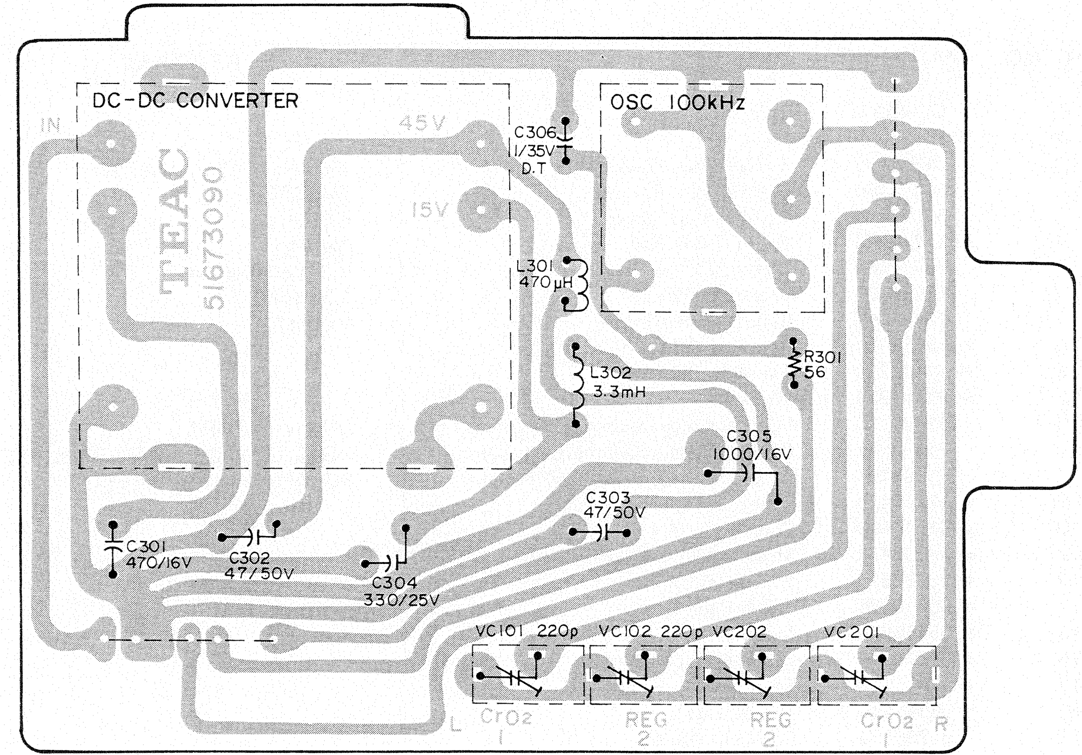
REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
5 - 1	* 55320200	Case	
5 - 2	* 55545580	Mask, A	
5 - 3	51520420	Transformer, Power	JAPAN, U.S.A., CANADA
	51520430	Transformer, Power	EUROPE
	51520440	Transformer, Power	EXPORT
5 - 4	* 51280270	Coard, AC Power	JAPAN
	50471661	Coard, AC Power	U.S.A., CANADA
	51280170	Coard, AC Power	EUROPE
	50471652	Coard, AC Power	EXPORT
5 - 5	* 50438350	Terminal Strip, 2P	
5 - 6	* 55443270	Standoff, Cace	
5 - 7	* 55545230	Heatsink	
5 - 8	51683130	PC Board Assy, Switching Regulator	JAPAN, EXPORT
	51683141	PC Board Assy, Switching Regulator	U.S.A., CANADA (ESOTERIC SERIES)
	51683151	PC Board Assy, Switching Regulator	EUROPE (ESOTERIC SERIES)
5 - 9	* 55340420	Clamp, Wire; B	
5 - 10	* 55545590	Chassis	
5 - 11	* 55300470	Strain Relief, AC Power Cord	
5 - 12	* 55545610	Panel, Rear; A	All except EXPORT
	* 55545620	Panel, Rear; B	EXPORT
5 - 13	* 55545630	Mask, B	
5 - 14	* 57220490	Bushing, Rubber	
5 - 15	* 55545600	Panel, Front	
5 - 16	* 55341470	Mount, Foot	
5 - 17	* 51280150	Cord, DC Power	
5 - 18	* 50332950	Washer, Insulator	
5 - 19	* 50425290	Transistor, 2SD 389 - P	
5 - 20	* 50332910	Spacer, Insulator	
5 - 21	* 50452060	Terminal Strip, 1L2P	EXPORT
5 - 22	* 55545640	Plate, Plug	EXPORT
5 - 23	* 50432990	Plug, Voltage Selector	EXPORT
5 - 24	* 50435060	Socket, Voltage Selector	EXPORT

INCLUDED ACCESSORIES

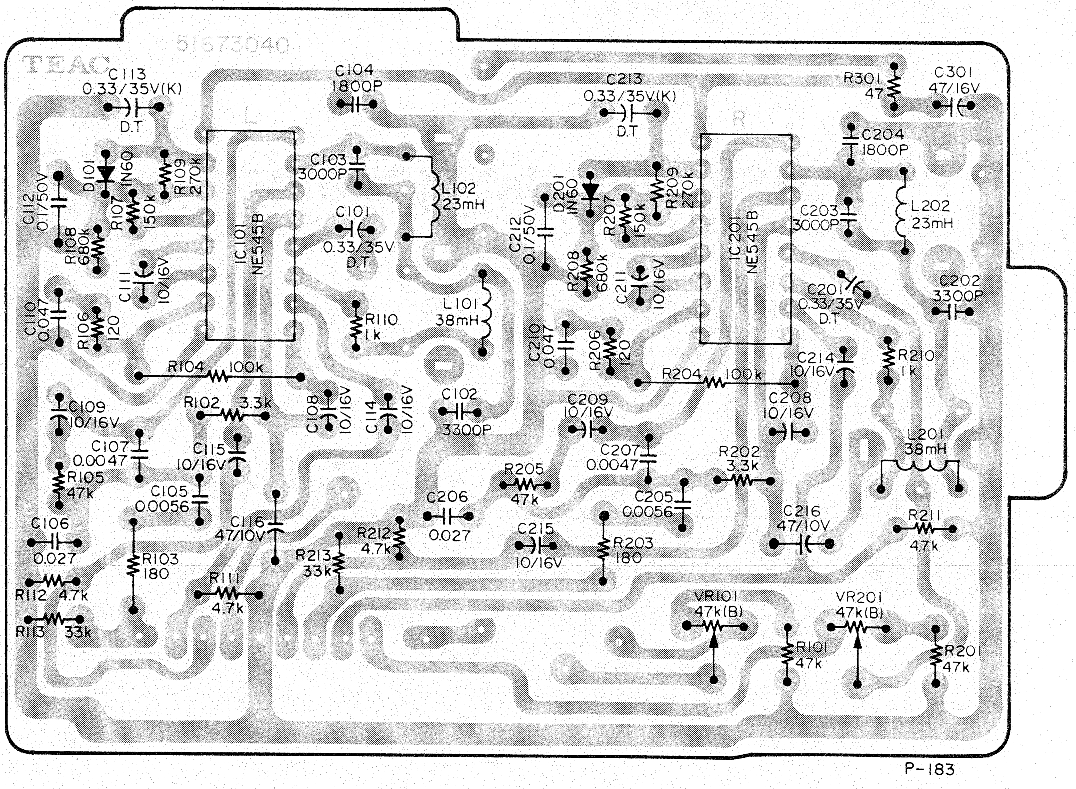
REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
	50471250	Cords, Input-output Connection, 2 used	
	50271770	Strap, Binding	
	57100300	Cleaning Stick (TZ - 275)	
	55341570	Holder, Battery, 2 used	
	55142700	Belt, Shoulder	
	51012990	PC - 10 Owner's Manual	JAPAN
	51013000	PC - 10 Owner's Manual	EXPORT, EUROPE
	51013010	PC - 10 Owner's Manual	U.S.A., CANADA
	51013690	Cassette Supplement	JAPAN
	51013450	Cassette Supplement	U.S.A., CANADA
	51014130	Cassette Supplement	EXPORT, EUROPE

2. PC BOARD SECTION (Diagram)

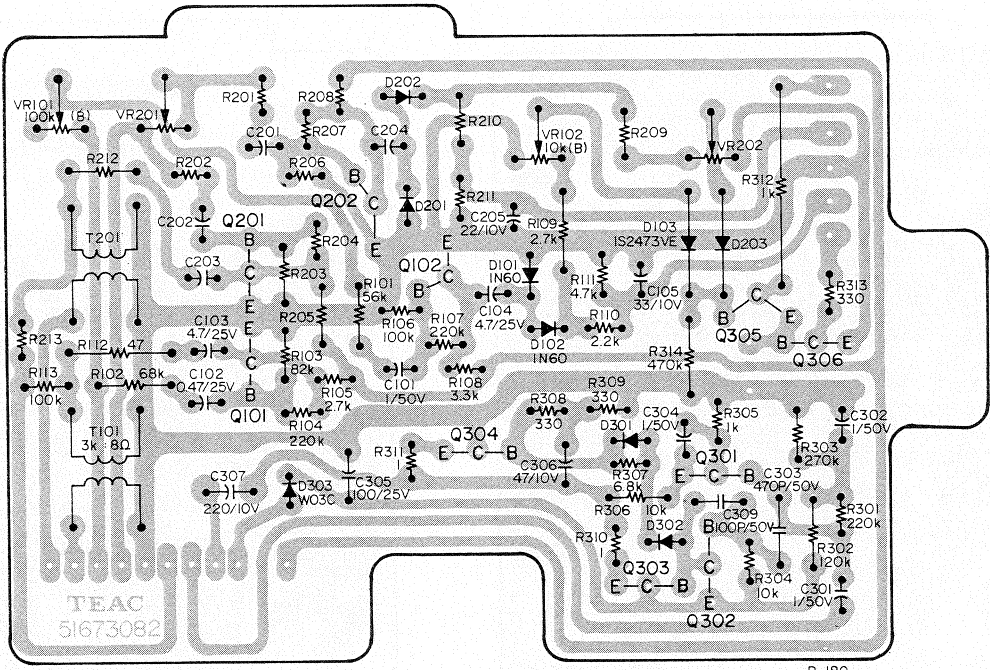
2-1 POWER SUPPLY


DC-DC CONVERTER
IN
45V
15V
TEAC
51673090
C306
1/35V
D.T
OSC 100kHz
L301
470µH
L302
3.3mH
R301
56
C305
1000/16V
C303
47/50V
C301
470/16V
C302
47/50V
C304
330/25V
VC101 220p
VC102 220p
VC202
VC201
L
CrO2
1
REG
2
REG
2
CrO2
1
R
P-185

2-2 DOLBY B TYPE PROCESSOR

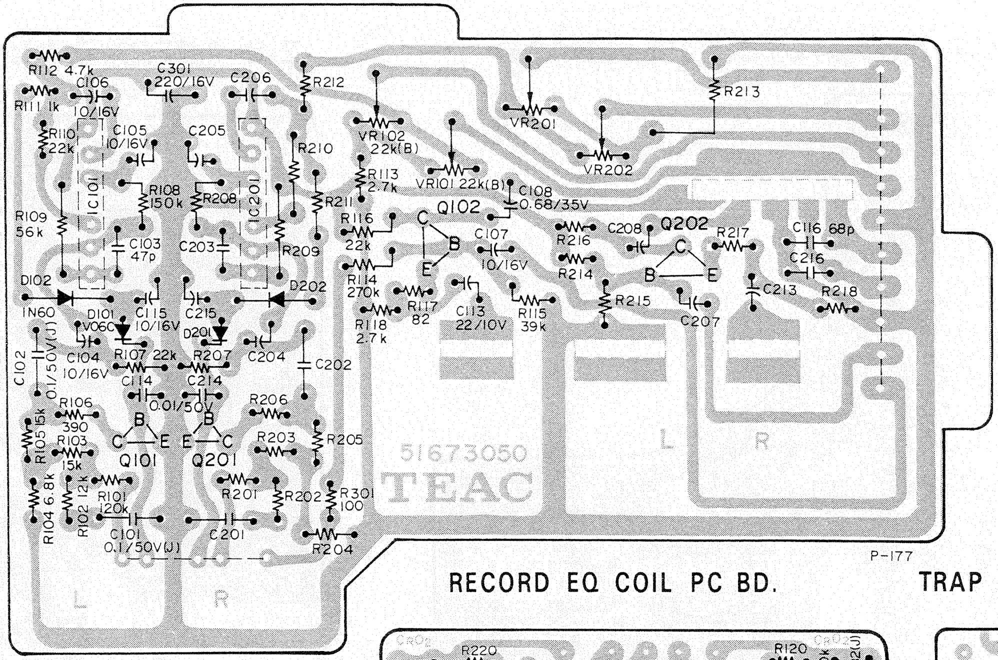

51673040
TEAC
C113
0.33/35V(K)
D.T
C104
1800P
C213
0.33/35V(K)
D.T
R301
47
C301
47/16V
L
R
C204
1800P
C112
0.1/50V
D101
1N60
R107
150k
R109
270k
R108
680k
C111
10/16V
C103
3000P
C101
0.33/35V
D.T
L102
23mH
IC101
NE545B
C212
0.1/50V
D201
1N60
R207
150k
R209
270k
R208
680k
C211
10/16V
IC201
NE545B
C203
3000P
L202
23mH
C110
0.047
R106
120
R110
1k
L101
38mH
C210
0.047
R206
120
C201
0.33/35V
D.T
C202
3300P
R104
100k
R204
100k
C214
10/16V
R210
1k
C109
10/16V
R102
3.3k
C108
10/16V
C114
10/16V
C102
3300P
C209
10/16V
C208
10/16V
L201
38mH
C107
0.0047
C115
10/16V
R205
47k
C207
0.0047
R202
3.3k
R105
47k
C105
0.0056
C116
47/10V
C206
0.027
C205
0.0056
C216
47/10V
R211
47k
C106
0.027
R212
4.7k
C215
10/16V
R203
180
R103
180
R213
33k
R112 4.7k
R111
4.7k
VR101
47k(B)
VR201
47k(B)
R101
47k
R201
47k
R113 33k
P-183

2-3 METER MONITOR AMPLIFIER


VR101 100k (B)
VR201
R201
R208
D202
R210
VR102 10k(B)
R209
VR202
R312 1k
C201
R207
C204
R212
R202
R206
B
Q202
C
D201
R211
C205 22/10V
R109 2.7k
D103 IS2473VE
D203
T201
C202
Q201
B
R204
E
E
C203
R203
R101 56k
Q102
C
D101 IN60
R111 4.7k
C105 33/10V
R313 330
C
B
E
Q305
B—C—E
Q306
C103 4.7/25V
R205
R106 100k
R107 220k
C104 4.7/25V
R110 2.2k
D102 IN60
R314 470k
R213
R112 47
R103 82k
R113 100k
R102 68k
C102 0.47/25V
R105 2.7k
C101 1/50V
R108 3.3k
R309 330
R308 330
C304
D301 1/50V
R305 1k
C302 1/50V
Q101
R104 220k
Q304
E—C—B
T101 3k : 8Ω
R311
C306 47/10V
R307 6.8k
Q301
E—C—B
R303 270k
C303 470P/50V
C307 220/10V
D303 W03C
C305 100/25V
R306 10k
D302
C309 100P/50V
R301 220k
R310
Q303 E—C—B
C
E
Q302
R302 120k
R304 10k
C301 1/50V
TEAC
51673082

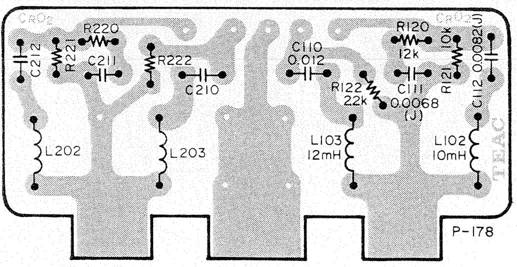
P-180

2-4 LIMITER RECORD AMPLIFIER

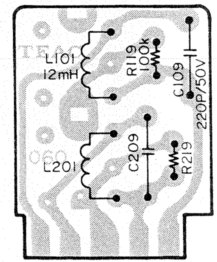

R112 4.7k
C301 220/16V
C206
R212
R111 1k
C106 10/16V
R213
VR201
R110 22k
C105 10/16V
C205
R210
VR102 22k(B)
VR202
IC101
IC201
R108 150k
R208
R113 2.7k
VR101 22k(B)
C108 0.68/35V
R109 56k
C103 47p
C203
R209
R211
R116 22k
Q102
C
B
E
C107 10/16V
R216
C208
Q202
C
B
E
R217
C116 68p
C216
R214
D102
IN60
D101 V06C
C115 10/16V
C215
D201
D202
R114 270k
R118 2.7k
R117 82
C113 22/10V
R115 39k
R215
C207
C213
R218
C102 0.1/50V(J)
C104 10/16V
R107 22k
R207
C204
C202
C114
C214 0.01/50V
R106 390
R206
R105 15k
R103 15k
B
C—E
Q101
B
E—C
Q201
R203
R205
51673050
TEAC
L
R
R104 6.8k
R102 12k
R101 120k
R201
R202
R301 100
C101 0.1/50V(J)
C201
R204
L
R

P-177

RECORD EQ COIL PC BD.

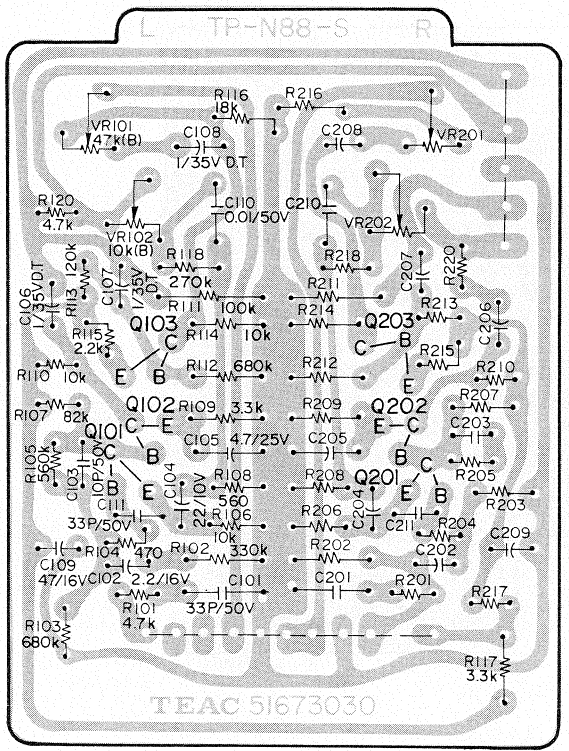

R220
R221
C212
C211
R222
C210
C110 0.012
R120 12k
R121 10k
C112 0.0082(J)
R122 22k
C111 0.0068 (J)
L202
L203
L103 12mH
L102 10mH
TEAC
P-178

TRAP COIL PC BD.

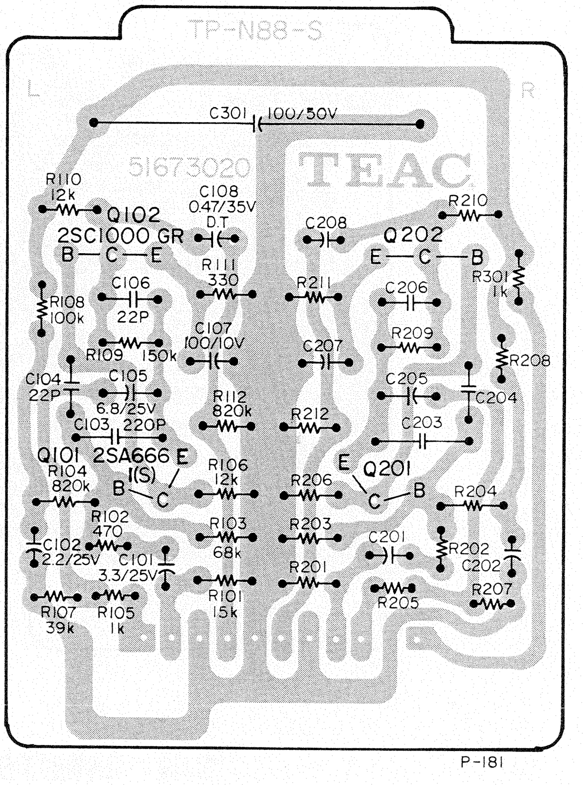

L101 12mH
R119 100k
C109 220P/50V
L201
C209
R219

P-179

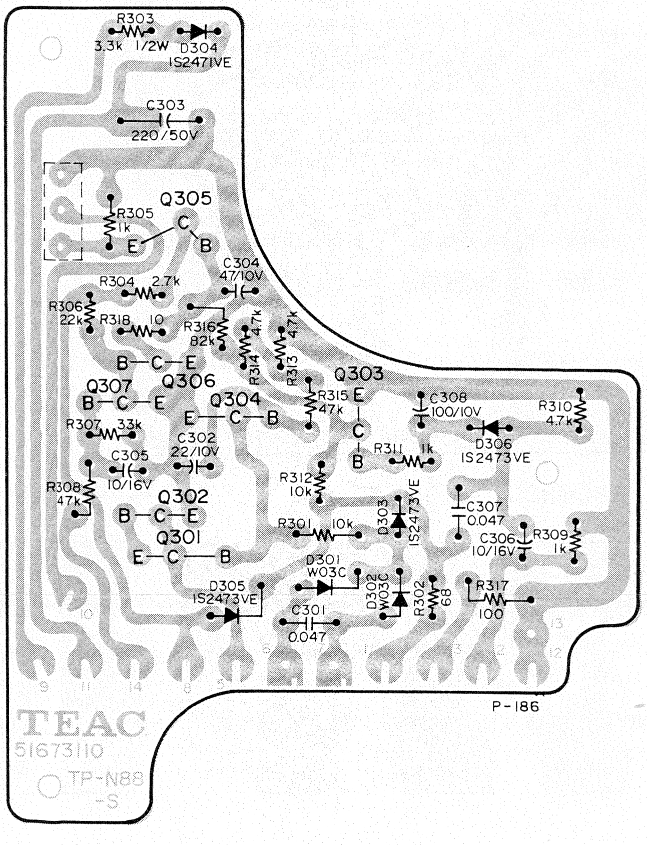
2-5 PLAYBACK EQ AMPLIFIER


L TP-N88-S R
R116 18k
R216
VR101 47k(B)
C108 1/35V D.T
C208
VR201
R120 4.7k
VR102 10k(B)
C110 0.01/50V
C210
VR202
R113 120k
C107 1/35V DT
R118 270k
R218
R211
C207
R220
C106 1/35V DT
R111 100k
R214
R213
Q103
Q203
C206
R115 2.2k
R114 10k
R215
R110 10k
R112 680k
R212
R210
R107 82k
Q102
R109 3.3k
R209
Q202
R207
Q101
C105 4.7/25V
C205
C203
R105 560k
C103 10P/50V
C104 22/10V
R108 560
R208
Q201
R205
C111 33P/50V
R106 10k
R206
C204
C211
R203
R204
C109 47/16V
R104 470
R102 330k
R202
C202
C209
C102 2.2/16V
C101
C201
R201
R217
R101 4.7k
33P/50V
R103 680k
R117 3.3k
TEAC 51673030
P-182

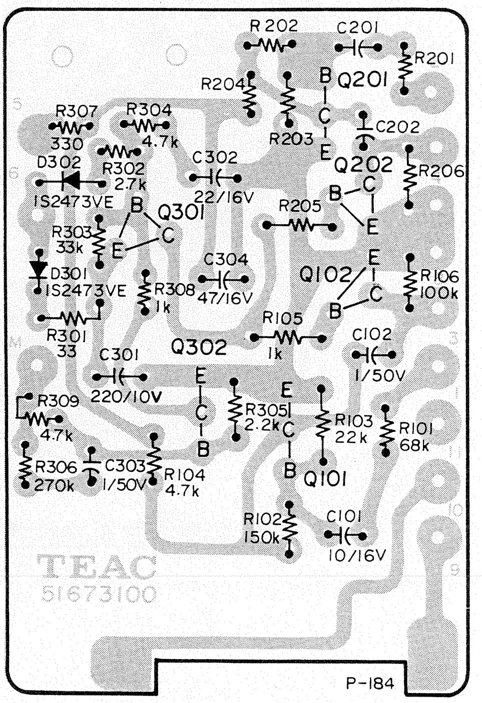
2-6 MIC AMPLIFIER


TP-N88-S
L R
C301 100/50V
51673020 TEAC
R110 12k
Q102 2SC1000 GR
C108 0.47/35V D.T
C208
Q202
R210
R111 330
R301 1k
R108 100k
C106 22P
R211
C206
C107 100/10V
C207
R209
R208
R109 150k
C104 22P
C105 6.8/25V
C205
C204
C103 220P
R112 820k
R212
C203
Q101 2SA666 E 1(S)
R104 820k
R106 12k
R206
Q201
R204
R102 470
R103 68k
R203
C201
C102 2.2/25V
C101 3.3/25V
R202
C202
R201
R101 15k
R207
R107 39k
R105 1k
R205
P-181

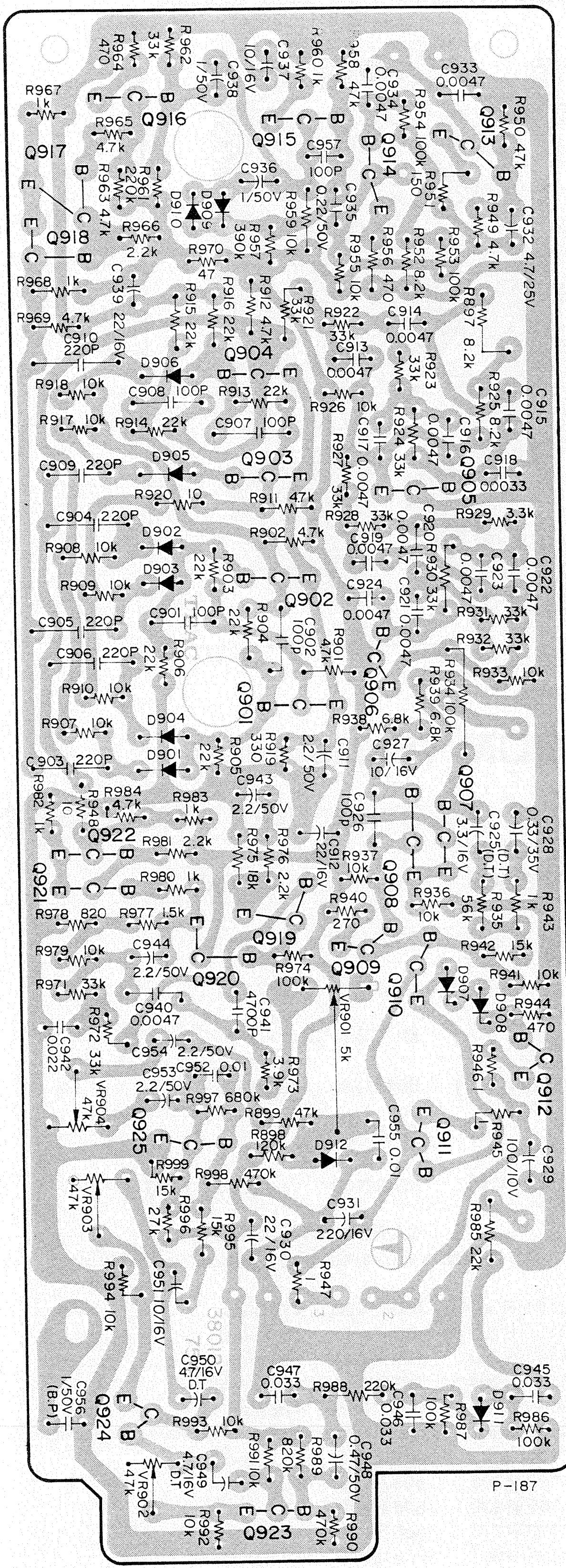
2-7 AUTO STOP PC BOARD


R303 3.3k 1/2W
D304 1S2471VE
C303 220/50V
Q305
R305 1k
C304 47/10V
R304 2.7k
R306 22k
R318 10
R316 82k
R314 4.7k
R313 4.7k
Q307
Q306
Q304
Q303
R315 47k
C308 100/10V
R310 4.7k
R307 33k
C302 22/10V
D306 1S2473VE
R311 1k
C305 10/16V
R308 47k
Q302
R312 10k
D303 1S2473VE
C307 0.047
Q301
R301 10k
C306 10/16V
R309 1k
D301 W03C
D302 W03C
R302 68
R317 100
D305 1S2473VE
C301 0.047
TEAC 51673110
TP-N88 -S
P-186

2-8 MUTING PC BOARD

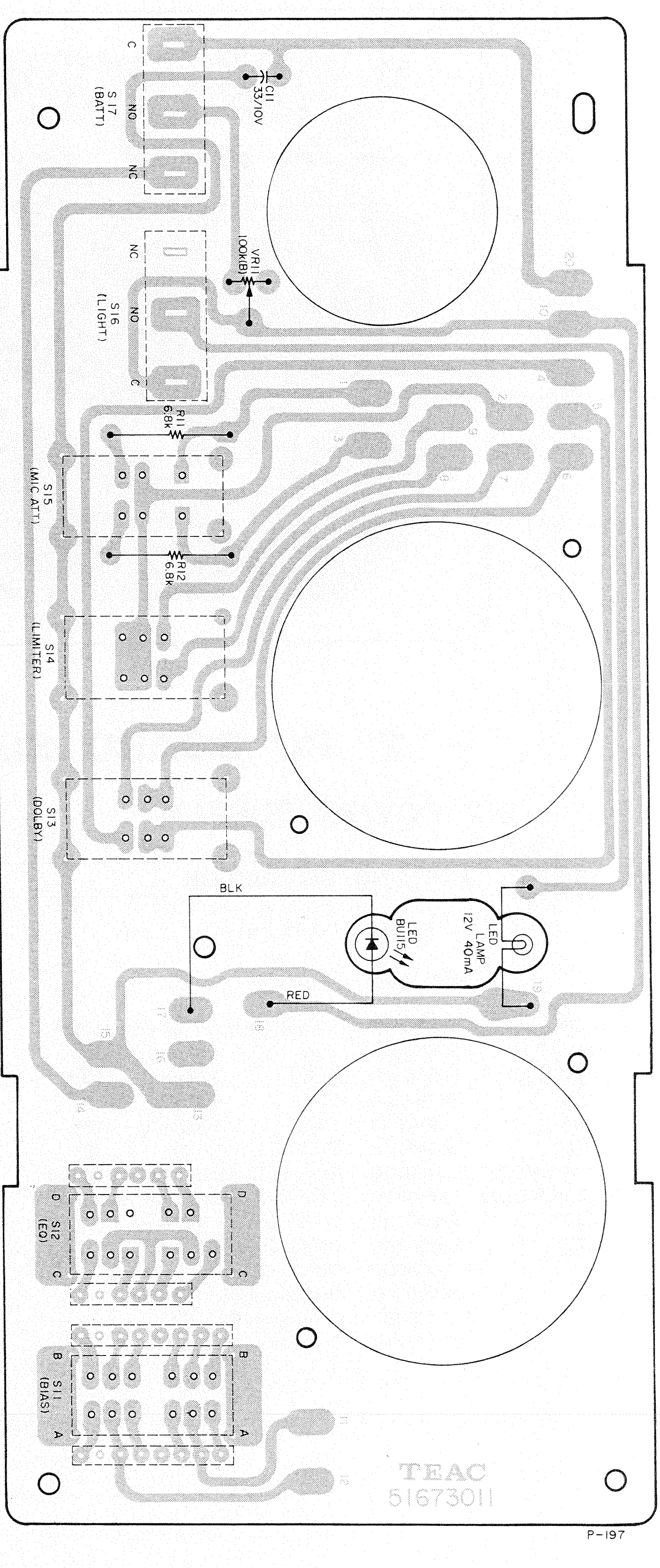

R202
C201
R201
R204
Q201
R307 330
R304 4.7k
C202
R203
D302 1S2473VE
R302 2.7k
C302 22/16V
Q202
R206
Q301
R205
R303 33k
D301 1S2473VE
C304 47/16V
R308 1k
Q102
R106 100k
R301 33
R105 1k
C301 220/10V
Q302
C102 1/50V
R309 4.7k
R305 2.2k
R103 22k
R101 68k
R306 270k
C303 1/50V
R104 4.7k
Q101
R102 150k
C101 10/16V
TEAC 51673100
P-184

2-9 SERVO CONTROL



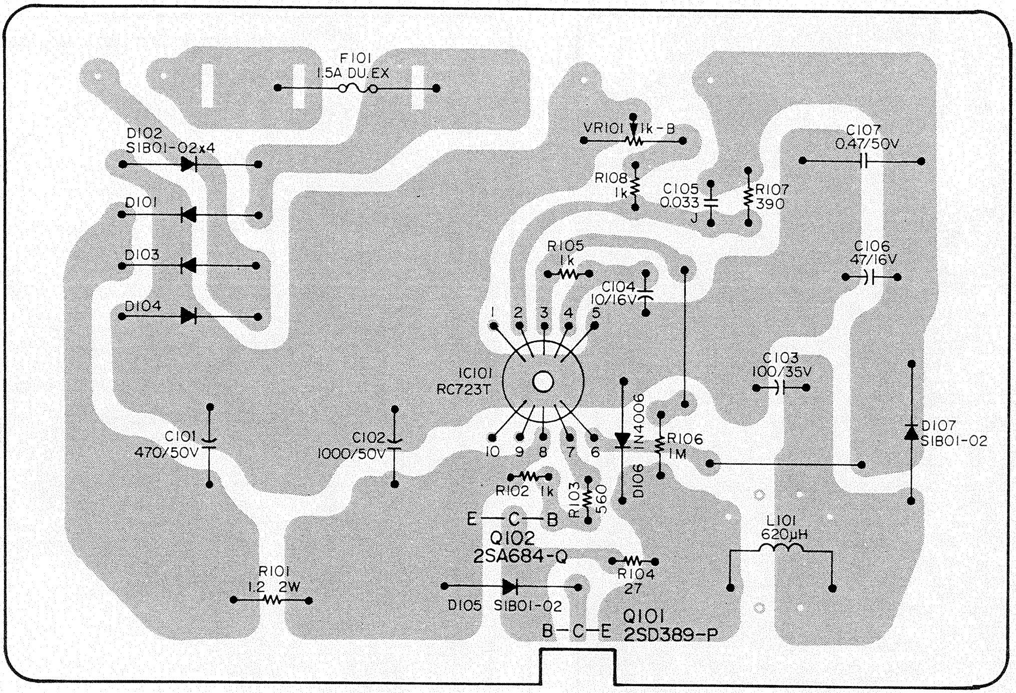
R962 1/50V
R964 470
33k
R967 1k
Q916
R965 4.7k
Q917
R963 4.7k
R961 220k
D909
D910
Q918
R966 2.2k
R968 1k
R969 4.7k
C910 220P
C938 10/16V
C937
R960 1k
R958 47k
C934 0.0047
C933 0.0047
Q915
C957 100P
C936 1/50V
R954 100k
R951 150
Q914
Q913
R950 47k
R949 4.7k
C932 4.7/25V
C935 0.22/50V
R959 10k
R957 390k
R955 10k
R956 470
R952 8.2k
R953 100k
R897 8.2k
R970 47
C939 22/16V
R915 22k
R916 22k
R912 4.7k
R921 33k
R922 33k
C914 0.0047
C913 0.0047
R923 33k
Q904
D906
R918 10k
C908 100P
R913 22k
R926 10k
R925 8.2k
C915 0.0047
R917 10k
R914 22k
C907 100P
R927 33k
C917 0.0047
R924 33k
C916 0.0047
Q905
C918 0.0033
C909 220P
D905
Q903
R920 10
R911 47k
R928 33k
R929 3.3k
C904 220P
D902
R902 4.7k
C919 0.0047
C920 0.0047
R930 33k
C923 0.0047
C922 0.0047
R908 10k
D903
R903 22k
Q902
C924 0.0047
C921 0.0047
R931 33k
R909 10k
C905 220P
C901 100P
R904 22k
C902 100P
R901 47k
R932 33k
C906 220P
R906 22k
Q906
R934 100k
R939 6.8k
R933 10k
R910 10k
Q901
R907 10k
D904
R938 6.8k
D901
R905 22k
R919 330
C911 22/50V
C927 10/16V
Q907
C903 220P
R982 1k
R948 10
R984 4.7k
R983 1k
C943 2.2/50V
C926 100P
C925 (D.T) 3.3/16V
C928 0.33/35V
Q922
R981 2.2k
R975 18k
R976 2.2k
C912 22/16V
R937 10k
Q908
Q921
R980 1k
R936 10k
R935 56k
R943 1k
R978 820
R977 1.5k
R940 270
Q919
R942 15k
R979 10k
C944 2.2/50V
Q920
R974 100k
Q909
Q910
D907
R941 10k
R971 33k
C940 0.0047
C941 4700P
VR901 5k
D908
R944 470
C942 0.022
R972 33k
C954 2.2/50V
C953 2.2/50V
C952 0.01
R973 3.9k
R946
Q912
VR904 47k
R997 680k
R899 47k
Q925
R898 120k
D912
C955 0.01
Q911
R945 100/10V
C929
R999 15k
R998 470k
VR903 47k
R996 27k
R995 15k
C930 22/16V
C931 220/16V
R985 22k
R947 1
R994 10k
C951 10/16V
C950 47/16V D.T
C947 0.033
R988 220k
C946 0.033
R987 100k
D911
C945 0.033
R986 100k
C956 1/50V (B.P)
Q924
R993 10k
R991 10k
R989 820k
C948 0.47/50V
C949 47/16V D.T
VR902 47k
R992 10k
Q923
R990 470k
E C B
P-187

2-10 PANEL PC BOARD



C
NO
NC
S17 (BATT)
C11 33/10V
NC
NO
C
S16 (LIGHT)
VR11 100k(B)
R11 6.8k
S15 (MIC ATT)
R12 6.8k
S14 (LIMITER)
S13 (DOLBY)
BLK
LED BU115
LED LAMP 12V 40mA
RED
D
S12 (EQ)
C
B
S11 (BIAS)
A
TEAC
51673011
P-197

2-11 SWITCHING REGULATOR (PA-2)


F101
1.5A DU.EX
D102
S1B01-02x4
D101
D103
D104
VR101 1k-B
C107
0.47/50V
R108
1k
C105
0.033
J
R107
390
R105
1k
C104
10/16V
C106
47/16V
1 2 3 4 5
IC101
RC723T
C103
100/35V
1N4006
D106
R106
1M
D107
S1B01-02
C101
470/50V
C102
1000/50V
10 9 8 7 6
R102 1k
R103
560
E—C—B
Q102
2SA684-Q
L101
620μH
R101
1.2 2W
R104
27
D105 S1B01-02
B-C-E
Q101
2SD389-P
P-188

2. PC BOARD SECTION (Parts List)

2-1 POWER SUPPLY

REF. NO.	PARTS NO.	DESCRIPTION
	51683090	PC Bd. Assy
	51673090	PC Board
R301	50570520	Carbon Resistor 56 ohm 1/4W
C301	50554400	Elec. 470 mfd 16V
C302, C303	50554580	Elec. 47 mfd 50V
C304	50554960	Elec. 330 mfd 25V
C305	50554890	Elec. 1000 mfd 16V
C306	50546701	Dip. Tant. 1 mfd 35V
VC101/VC201	51700220	Trimmer Capacitor 100~360 pfd
VC102/VC202	51700180	Trimmer Capacitor 40~220 pfd
L301	51600330	Choke Coil 470uhy
L302	51600340	Choke Coil 3.3 mH
	50400830	DC-DC Convertor
	50400810	Oscillator Unit, 100k Hz
	51220020	Connector, Plug; 6P
	51200110	Connector, Socket; 6P

2-2 DOLBY B TYPE PROCESSOR

REF. NO.	PARTS NO.	DESCRIPTION
	51683040	PC Bd. Assy
	51673040	PC Board
	DOLBY IC's	
IC101/IC201	50427280	NE545 B
	DIODES	
D101/D201	50422130	Germanium 1N60
	CARBON RESISTORS	
	All resistors are rated ±5% tolerance and 1/4 watt.	
R101/R201	50571220	47k ohm
R102/R202	50570940	3.3k ohm
R103/R203	50570640	180 ohm
R104/R204	50573300	100k ohm
R105/R205	50571220	47k ohm
R106/R206	50570600	120 ohm
R107/R207	50571340	150k ohm
R108/R208	50571500	680k ohm
R109/R209	50571400	270k ohm
R110/R210	50570820	1k ohm
R111/R211	50570980	4.7k ohm
R112/R212	50570980	4.7k ohm
R113/R213	50571180	33k ohm
R301	50570500	47 ohm

REF. NO. PARTS NO. DESCRIPTION

CAPACITORS

C101/C201	51703001	Dip. Tant.	0.33 mfd	35V 10%
C102/C202	50596800	Polyst.	3300 pfd	50V 5%
C103/C203	50596810	Polyst.	3000 pfd	50V 5%
C104/C204	50543990	Polyst.	1800 pfd	50V 5%
C105/C205	50548920	Mylar	0.0056 mfd	50V 5%
C106/C206	50548990	Mylar	0.027 mfd	50V 5%
C107/C207	50548910	Mylar	0.0047 mfd	50V 5%
C108/C208	50554050	Elec.	10 mfd	16V
C109/C209	50554050	Elec.	10 mfd	16V
C110/C210	50547380	Mylar	0.0047 mfd	50V 5%
C111/C211	50554050	Elec.	10 mfd	16V
C112/C212	50549280	Mylar	0.1 mfd	50V 5%
C113/C213	51703001	Dip. Tant.	0.33 mfd	35V 10%
C114/C214	50554050	Elec.	10 mfd	16V
C115/C215	50554050	Elec.	10 mfd	16V
C116/C216	50555540	Elec.	47 mfd	10V
C301	50554010	Elec.	47 mfd	16V

VARIABLE RESISTORS

VR101/VR201	51501330	Semi-fixed, 47k ohm - B

COILS

L101/L201	50566660	Choke 38 mH 5% (Fixed)
L102/L202	50566650	Choke 23 mH (Adjustable)

MISCELLANEOUS

	51220130	Connector, Socket; 10P
	51470160	Socket, IC; 16P

2-3 METER MONITOR AMPLIFIER

REF. NO. PARTS NO. DESCRIPTION

	51683082	PC Bd. Assy
	51673082	PC Board

TRANSISTORS

Q101/Q201	50423600	2SC828 (Q)
Q102/Q202	50423600	2SC828 (Q)
Q301	50423600	2SC828 (Q)
Q302	50423790	2SA564 (Q)
Q303	51450410	2SC1383 (Q)
Q304	50424560	2SA683 (Q)
Q305, Q306	50423600	2SC828 (Q)

DIODES

D101/D201	50422130	Germanium	1N60
D102/D202	50422130	Germanium	1N60
D103/D203	50425170	Silicon	1S2473VE
D301, D302	50422180	Silicon	M85-13A-R
D303	50430890	Silicon	WO3C

REF. NO. PARTS NO. DESCRIPTION

CARBON RESISTORS

All resistors are rated ±5% tolerance and 1/4 watt.

R101/R201	50571240	56k ohm
R102/R202	50571260	68k ohm
R103/R203	50571280	82k ohm
R104/R204	50571380	220k ohm
R105/R205	50570920	2.7k ohm
R106/R206	50571300	100k ohm
R107/R207	50571380	220k ohm
R108/R208	50570940	3.3k ohm
R109/R209	50570920	2.7k ohm
R110/R210	50570900	2.2k ohm
R111/R211	50570980	4.7k ohm
R112/R212	50570500	47 ohm
R113/R213	50571300	100k ohm
R301	50571380	220k ohm
R302	50571320	120k ohm
R303	50571400	270k ohm
R304	50571060	10k ohm
R305	50570820	1k ohm
R306	50571060	10k ohm
R307	50571020	6.8k ohm
R308, R309	50570700	330 ohm
R310, R311	50570100	1 ohm
R312	50572820	1k ohm
R313	50570700	330 ohm
R314	50571460	470k ohm

CAPACITORS

C101/C201	50554540	Elec.	1 mfd	50V
C102/C202	50554970	Elec.	0.47 mfd	50V
C103/C203	50554530	Elec.	4.7 mfd	25V
C104/C204	50554530	Elec.	4.7 mfd	25V
C105	50554240	Elec.	33 mfd	10V
C301, C302	50554540	Elec.	1 mfd	50V
C303	50547560	Dip. Mica	470 pfd	50V
C304	50554540	Elec.	1 mfd	50V
C305	50554170	Elec.	100 mfd	25V
C306	50555540	Elec.	47 mfd	10V
C307	50554910	Elec.	220 mfd	10V
C309	50547560	Dip. Mica	100 pfd	50V

VARIABLE RESISTORS

VR101/VR201	51501350	Semi-fixed 100k ohm - B
VR102/VR202	51501290	Semi-fixed 10k ohm - B

TRANSFORMERS

T101/T201	50562260	Output 3k ohm:8 ohm (or 51520740)

MISCELLANEOUS

	51220090	Connector, Plug; 5P
	51220130	Connector, Socket; 10P

2-4 LIMITER RECORD AMPLIFIER

REF. NO.	PARTS NO.	DESCRIPTION
	51683050	PC Bd. Assy
	51673050	PC Board

IC's

IC101/IC201	51470180	BA - 301B

TRANSISTOR

Q101/Q201	51450410	2SC 1383 (Q)
Q102/Q202	50424600	2SC 828 (S)

DIODES

D101/D201	51430920	Silicon	VO6C
D102/D202	50422130	Germanium	1N60

CARBON RESISTORS

All resistors are rated ±5% tolerance and 1/4 watt.

R101/R201	50571320	120k ohm
R102/R202	50571080	12k ohm
R103/R203	50571100	15k ohm
R104/R204	50571020	6.8k ohm
R105/R205	50571100	15k ohm
R106/R206	50570720	390 ohm
R107/R207	50571140	22k ohm
R108/R208	50571340	150k ohm
R109/R209	50571240	56k ohm
R110/R210	50571140	22k ohm
R111/R211	50570820	1k ohm
R112/R212	50570980	4.7k ohm
R113/R213	51812920	2.7k ohm
R114/R214	50571400	270k ohm
R115/R215	50571200	39k ohm
R116/R216	50571140	22k ohm
R117/R217	50570560	82 ohm
R118/R218	50570920	2.7k ohm
R119/R219	50573300	100k ohm
R120/R220	50571080	12k ohm
R121/R221	50571060	10k ohm
R122/R222	50571140	22k ohm
R301	50570580	100 ohm

CAPACITORS

C101/C201	50549280	Mylar	0.1 mfd	50V 5%
C102/C202	50549280	Mylar	0.1 mfd	50V 5%
C103/C203	50547420	Dip. Mica	47 pfd	50V
C104/C204	50554050	Elec.	10 mfd	16V
C105/C205	50554050	Elec.	10 mfd	16V
C106/C206	50554050	Elec.	10 mfd	16V
C107/C207	50554050	Elec.	10 mfd	16V
C108/C208	50546691	Dip. Tant.	0.68 mfd	35V
C109/C209	50547450	Dip. Mica	220 pfd	50V
C110/C210	50548950	Mylar	0.012 mfd	50V 5%
C111/C211	50548930	Mylar	0.0068 mfd	50V 5%
C112/C212	50548940	Mylar	0.0082 mfd	50V 5%
C113/C213	50554720	Elec.	22 mfd	10V
C114/C214	50548770	Mylar	0.01 mfd	50V 5%
C115/C215	50554050	Elec.	10 mfd	16V
C116/C216	51700060	Dip. Mica	68 pfd	50V

REF. NO.	PARTS NO.	DESCRIPTION

VARIABLE RESISTORS

VR101/VR201	51501310	Semi-fixed 22k ohm - B
VR102/VR202	51501310	Semi-fixed 22k ohm - B

COILS

L101/L201	50566550	Trap	12 mH
L102/L202	50562630	Record EQ	10 mH
L103/L203	50562640	Record EQ	12 mH

MISCELLANEOUS

	51673060	PC Board, Trap Coil
	51673070	PC Board, Record EQ Coil
	51220050	Connector, Plug; 5P
	51220070	Connector, Plug; 10P
	51220110	Connector, Socket; 6P

2-5 PLAYBACK EQ AMPLIFIER

REF. NO.	PARTS NO.	DESCRIPTION
	51683030	PC Bd. Assy
	51673030	PC Board

TRANSISTORS

Q101/Q201	50424610	2SC 1327 (T)
Q102/Q202	50424610	1SC 1327 (T)
Q103/Q203	50424650	2SA 721 (T)

CARBON RESISTORS

All resistors are rated ±5% tolerance and 1/4 watt.

R101/R201	50570980	4.7k ohm
R102/R202	50571420	330k ohm
R103/R203	50571501	680k ohm (SG)
R104/R204	50570760	470 ohm
R105/R205	50571481	560k ohm (SG)
R106/R206	50571061	10k ohm (SG)
R107/R207	50571281	82k ohm (SG)
R108/R208	50570740	560 ohm
R109/R209	50570941	3.3k ohm (SG)
R110/R210	50571061	10k ohm (SG)
R111/R211	50571300	100k ohm
R112/R212	50571500	680k ohm
R113/R213	50571320	120k ohm
R114/R214	50571060	10k ohm
R115/R215	50570900	2.2k ohm
R116/R216	50571120	18k ohm
R117/R217	50570940	3.3k ohm
R118/R218	50571400	270k ohm
R119/R219	50570980	4.7k ohm

REF. NO.	PARTS NO.	DESCRIPTION		
	CAPACITORS			
C101/C201	50547460	Dip. Mica	330 pfd	50V
C102/C202	50546521	Dip. Tant.	2.2 mfd	16V
C103/C203	50547400	Dip. Mica	10 pfd	50V
C104/C204	50554720	Elec.	22 mfd	10V
C105/C205	50554530	Elec.	4.7 mfd	25V
C106/C206	50546701	Dip. Tant.	1 mfd	35V
C107/C207	50546701	Dip. Tant.	1 mfd	35V
C108/C208	50546701	Dip. Tant.	1 mfd	35V
C109/C209	50554010	Elec.	47 mfd	16V
C110/C210	50548770	Mylar	0.01 mfd	50V
C111/C211	50543510	Dip. Mica	33 pfd	50V
	VARIABLE RESISTORS			
VR101/VR201	51501330	Semi-fixed, 47k ohm - B		
VR102/VR202	51501290	Semi-fixed, 10k ohm - B		
	MISCELLANEOUS			
	51220090	Connector, Plug; 5P		
	51220130	Connector, Socket; 10P		

2-6 MIC AMPLIFIER

REF. NO.	PARTS NO.	DESCRIPTION		
	51683020	PC Bd. Assy		
	51673020	PC Board		
	TRANSISTORS			
Q101/Q201	50424210	2SA 666 ① (S)		
Q102/Q202	50424100	2SC 1000 (GR)		
	CARBON RESISTORS **All resistors are rated ±5% tolerance and 1/4 watt.**			
R101/R201	50571100	15k ohm		
R102/R202	50570740	470 ohm		
R103/R203	50571260	68k ohm		
R104/R204	50571520	820k ohm		
R105/R205	50570820	1k ohm		
R106/R206	50571080	12k ohm		
R107/R207	50571200	39k ohm		
R108/R208	50571300	100k ohm		
R109/R209	50571340	150k ohm		
R110/R210	50571080	12k ohm		
R111/R211	50570700	330 ohm		
R112/R212	50571520	820k ohm		
R301	50570820	1k ohm		
	CAPACITORS			
C101/C201	50546601	Dip. Tant.	3.3 mfd	25V
C102/C202	50554940	Elec.	2.2 mfd	25V
C103/C203	50547450	Dip. Mica	220 pfd	50V
C104/C204	50543820	Dip. Mica	22 pfd	50V
C105/C205	50546621	Dip. Tant.	6.8 mfd	25V
C106/C206	50543820	Dip. Mica	22 pfd	50V
C107/C207	50554570	Elec.	100 mfd	10V
C108/C208	50546681	Dip. Tant.	0.47 mfd	35V
C301	50555080	Elec.	2.2 mfd	25V
	MISCELLANEOUS			
	51220130	Connector, Socket; 10P		

2-7 AUTO STOP PC BOARD

REF. NO.	PARTS NO.	DESCRIPTION	
	51683110	PC Bd. Assy	
	51673110	PC Board	
	TRANSISTORS		
Q301	50423600	2SC828 (Q)	
Q302	50424750	2SC1384 (Q)	
Q303~Q307	50423600	2SC828 (Q)	
	SCR		
SCR301	50428030	FIR3B41	
	DIODES		
D301, D302	51430890	WO3C	
D303	50425170	1S2473VE	
D304	50430430	1S2471VE	
D305, D306	50425170	1S2473VE	
	CARBON RESISTORS **All resistors are rated ±5% tolerance and 1/4 watt unless otherwise noted.**		
R301	50571060	10k ohm	
R302	50570540	68 ohm	
R303	51803280	3.3k ohm	1/2W
R304	50570920	2.7k ohm	
R305	50570820	1k ohm	
R306	50571140	22k ohm	
R307	50571180	33k ohm	
R308	50571220	47k ohm	
R309	50570820	1k ohm	
R310	50570980	4.7k ohm	
R311	50570820	1k ohm	
R312	50571060	10k ohm	
R313, R314	50570980	4.7k ohm	
R315	50571220	47k ohm	
R316	50571280	82k ohm	
R317	50570580	100 ohm	
R318	50570340	10 ohm	

REF. NO.	PARTS NO.	DESCRIPTION		
	CAPACITORS			
C301	50547380	Mylar	0.047 mfd	50V
C302	50554720	Elec.	22 mfd	10V
C303	50554060	Elec.	220 mfd	50V
C304	50555540	Elec.	47 mfd	10V
C305, C306	50554050	Elec.	10 mfd	16V
C307	50547380	Mylar	0.047 mfd	50V
C308	50554570	Elec.	100 mfd	10V

2-8 MUTING PC BOARD

REF. NO.	PARTS NO.	DESCRIPTION		
	51683100	PC Bd. Assy		
	51673100	PC Board		
	TRANSISTORS			
Q101/Q201	50424610	2SC1327 (T)		
Q102/Q202	50424670	2SC1317 (R)		
Q301	50423790	2SA564 (Q)		
Q302	50423600	2SC828 (Q)		
	DIODES			
D301, D302	50425170	1S2473VE		
	CARBON RESISTORS **All resistors are rated ±5% tolerance and 1/4 watt.**			
R101/R201	50571260	68k ohm		
R102/R202	50571340	150k ohm		
R103/R203	50571140	22k ohm		
R104/R204	50570980	4.7k ohm		
R105/R205	50570820	1k ohm		
R106/R206	50571300	100k ohm		
R301	50570460	33 ohm		
R302	50570920	2.7k ohm		
R303	50571180	33k ohm		
R304	50570980	4.7k ohm		
R305	50570900	2.2k ohm		
R306	50571400	270k ohm		
R307	50570700	330 ohm		
R308	50570820	1k ohm		
R309	50570980	4.7k ohm		
	CAPACITORS			
C101/C201	50554050	Elec.	10 mfd	16V
C102/C202	50554540	Elec.	1 mfd	50V
C301	50554910	Elec.	220 mfd	10V
C302	50549780	Elec.	22 mfd	16V (KU)
C303	50554540	Elec.	1 mfd	50V
C304	50554010	Elec.	47 mfd	16V

2-9 SERVO CONTROL

REF. NO.	PARTS NO.	DESCRIPTION	
	51683122	PC Bd. Assy	
	51673122	PC Board	
	TRANSISTORS		
Q901~Q904	50424600	2SC828 (S)	
Q905	51450420	2SA564 (S)	
Q906~Q908	50424600	2SC828 (S)	
Q909	51450420	2SA564 (S)	
Q910	50424670	2SC1317 (R)	
Q911	50425290	2SD389 (P)	
Q912	50424900	2SA684 (Q)	
Q913	51450420	2SA564 (S)	
Q914~Q918	50424600	2SC828 (S)	
Q919, Q920	50424610	2SC1327 (T)	
Q921~Q925	50424600	2SC828 (S)	
	DIODES		
D901~D910	50425170	Silicon	1S2473VE
D911	50422130	Germanium	1N60
D912	50425170	Silicon	1S2473VE
	CARBON RESISTORS **All resistors are rated ±5% tolerance, 1/4 watt and of carbon type unless otherwise noted.**		
R901, R902	50570980	4.7k ohm	
R903~R906	50571140	22k ohm	
R907~R910	50571060	10k ohm	
R911, R912	50570980	4.7k ohm	
R913~R916	50571140	22k ohm	
R917, R918	50571060	10k ohm	
R917	50570700	330 ohm	
R920	50570370	10 ohm	
R921~R924	50571180	33k ohm	
R925	50571040	8.2k ohm	
R926	50571060	10k ohm	
R927~R932	50571180	33k ohm	
R933	50571060	10k ohm	
R934	50571300	100k ohm	
R935	50571240	56k ohm	
R936, R937	50571060	10k ohm	
R938, R939	50571020	6.8k ohm	
R940	50570680	270 ohm	
R941	50571060	10k ohm	
R942	50571100	15k ohm	
R943	50570820	1k ohm	
R944	50570740	470 ohm	
R945~R947	50570100	1 ohm	
R948	50570370	10 ohm	
R949	50570980	4.7k ohm	
R950	50571220	47k ohm	
R951 *	50570620	150 ohm	
R952	50571040	8.2k ohm	
R953, R954	50571300	100k ohm	
R955	50571060	10k ohm	
R956	50570740	470 ohm	
R957	50571440	390k ohm	
R958	50571220	47k ohm	
R959	50571060	10k ohm	
R960	50570820	1k ohm	
R961	50571380	220k ohm	

REF. NO.	PARTS NO.	DESCRIPTION
R962	50571180	33k ohm
R963	50570980	4.7k ohm
R964	50570740	470 ohm
R965	50570980	4.7k ohm
R966	50570900	2.2k ohm
R967, R968	50570820	1k ohm
R969	50570980	4.7k ohm
R970	50570500	47 ohm
R971	51813700	Metal Film 33k ohm
R972	50571180	33k ohm
R973	50570960	3.9k ohm
R974	50571300	100k ohm
R975	50571120	18k ohm
R976	50570900	2.2k ohm
R977	50570860	1.5k ohm
R978	50570800	820 ohm
R979	50571060	10k ohm
R980	50570820	1k ohm
R981	50570900	2.2k ohm
R982, R983	50570820	1k ohm
R984	50570980	4.7k ohm
R985	50571140	22k ohm
R986, R987	50571300	100k ohm
R988	50571380	220k ohm
R989	50571520	820k ohm
R990	50571460	470k ohm
R991~R994	50571060	10k ohm
R995	50571100	15k ohm
R996	50571160	27k ohm
R997	50571500	680k ohm
R998	50571460	470k ohm
R999	50571100	15k ohm
R899	50571220	4.7k ohm
R898	50571320	120k ohm
R897	50571040	8.2k ohm

CAPACITORS

REF. NO.	PARTS NO.	DESCRIPTION		
C901, C902	50547440	Dip. Mica	100 pfd	50V
C903~C906	50547450	Dip. Mica	220 pfd	50V
C907, C908	50547440	Dip. Mica	100 pfd	50V
C909, C910	50547450	Dip. Mica	220 pfd	50V
C911	50554980	Elec.	2.2 mfd	50V
C912	50554880	Elec.	22 mfd	16V
C913~C917	50548910	Mylar	0.0047 mfd	50V 5%
C918	50548810	Mylar	0.0033 mfd	50V 5%
C919~C924	50548910	Mylar	0.0047 mfd	50V 5%
C925	50546531	Dip. Tant.	3.3 mfd	16V
C926	50547440	Dip. Mica	100 pfd	50V
C927	50554050	Elec.	10 mfd	16V
C928	50546671	Dip. Tant.	0.33 mfd	35V
C929	50554570	Elec.	100 mfd	10V
C930	50554880	Elec.	22 mfd	16V
C931	50554390	Elec.	220 mfd	16V
C932	50554530	Elec.	4.7 mfd	25V
C933, C934	50548130	Mylar	0.0047 mfd	50V
C935	50548290	Mylar	0.022 mfd	50V
C936	50554540	Elec.	1 mfd	50V
C937	50554050	Elec.	10 mfd	16V
C938	50554540	Elec.	1 mfd	50V
C939	50554880	Elec.	22 mfd	16V
C940	50548910	Mylar	0.0047 mfd	50V 5%
C941	51703030	Polyst.	4700 pfd	50V 5%
C942	50548980	Mylar	0.022 mfd	50V 5%
C943, C944	50554980	Elec.	2.2 mfd	50V
C945~C947	50548240	Mylar	0.033 mfd	50V
C948	50554970	Elec.	0.47 mfd	50V
C949, C950	50546549	Dip. Tant.	4.7 mfd	16V
C951	50554050	Elec.	10 mfd	16V
C952	50548020	Mylar	0.01 mfd	50V
C953, C954	50554980	Elec.	2.2 mfd	50V
C955	50548020	Mylar	0.01 mfd	50V
C956	50559420	Bi-Polar	1 mfd	50V
C957	50547440	Dip. Mica	100 pfd	50V

MISCELLANEOUS

55545210	Heat Sink
50332950	Spacer, Shoulder; Insul.
50332910	Spacer, Insul. Paper

2-10 PANEL PC BOARD

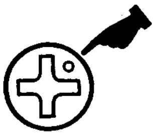
REF. NO.	PARTS NO.	DESCRIPTION
	51683011	PC Bd. Assy
	51673011	PC Board
	51430950	LED
	51420930	Lamp
S11	51320130	Switch, Lever (BIAS)
S12	51320130	Switch, Lever (EQ)
S13	51320150	Switch, Lever (DOLBY NR)
S14	51320150	Switch, Lever (LIMTER)
S15	51320140	Switch, Lever (MIC ATT)
S16	50546320	Switch, Micro (LIGHT)
S17	50546320	Switch, Micro (BATT)
VR11	50533490	Var. Res., Semi-fixed 100k ohm - B
C11	50554240	Capacitors, Elec. 33 mfd 10V
R11, R12	50573020	Resistors, Carbon 6.8k ohm 1/4W
M11	51650180	Meter, VU
M12	51650190	Meter, VU (Marked BATT)
	51220170	Connector, Plug; 7P
	51220150	Connector, Plug; 5P

2-11 SWITCHING REGULATOR (PA-2)

REF. NO.	PARTS NO.	DESCRIPTION			REMARKS
	51683130	PC Bd. Assy			JAPAN, EXPORT
	51683140	PC Bd. Assy			U.S.A., CANADA
	51683150	PC Bd. Assy			EUROPE
	51673130	PC Board			
	IC				
IC101	51470190	RC723T			
	TRANSISTORS				
Q101	50425290	2SD389 - P			
Q102	50424900	2SA684 (Q)			
	DIODES				
D101~D105	50422560	S1B01 - 02			
D106	50422940	1N - 4006			
D107	50422560	S1B - 01 - 02			
	CARBON RESITORS **All resistors are rated ±5% tolerance, 1/4 watt and of carbon type unless otherwise noted.**				
R101	51806120	Wire Wound	1.2 ohm	2W	
R102	50570820	1k ohm			
R103	50570760	560 ohm			
R104	50570440	27 ohm			
R105	50570820	1k ohm			
R106	50571540	1M ohm			
R107	50570720	390 ohm			
R108	50570820	1k ohm			
	CAPACITORS				
C101	50555840	Elec.	470 mfd	50V	
C102	50555850	Elec.	1000 mfd	50V	
C103	51700200	Elec.	100 mfd	35V	
C104	50554050	Elec.	10 mfd	16V	
C105	50549000	Mylar	0.033 mfd	50V 5%	
C106	50554010	Elec.	47 mfd	16V	
C107	51700190	Metalized Mylar	0.47 mfd	50V 10%	
	VARIABLE RESISTOR				
VR101	50534200	Semi-fixed, 1k ohm - B			
	COIL				
L101	51600350	620 uhy			
	MISCELLANEOUS				
	51420940	Holder, Fuse (2 used)			
F101	50411510	Fuse, 1.5A - 125V			JAPAN, EXPORT
F101	51411440	Fuse, 2A UL			U.S.A., CANADA (ESOTERIC SERIES)
F101	50411400	Fuse, 1AT			EUROPE (ESOTERIC SERIES)
	50332950	Spacer, Insulator			
	50332910	Spacer, Insul. Paper			

ASSEMBLING HARDWARE CODING LIST

All screws conform to ISO standards, and have crossrecessed heads, unless otherwise noted. ISO screws have the head inscribed with a point as in the figure to the right.



FOR EXAMPLE:

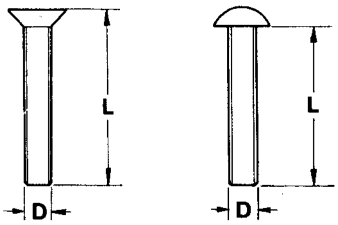
B M 3 x 6

Length in mm (L)

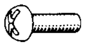
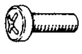
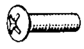
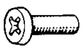
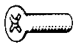
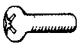
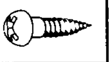
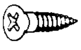
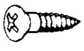
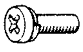
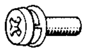
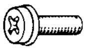
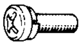
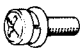
Diameter in mm (D)*

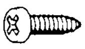
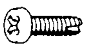
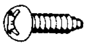
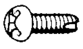
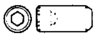
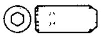
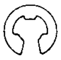
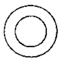
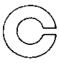
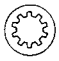
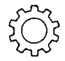
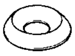
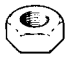
Metric System

Nomenclature



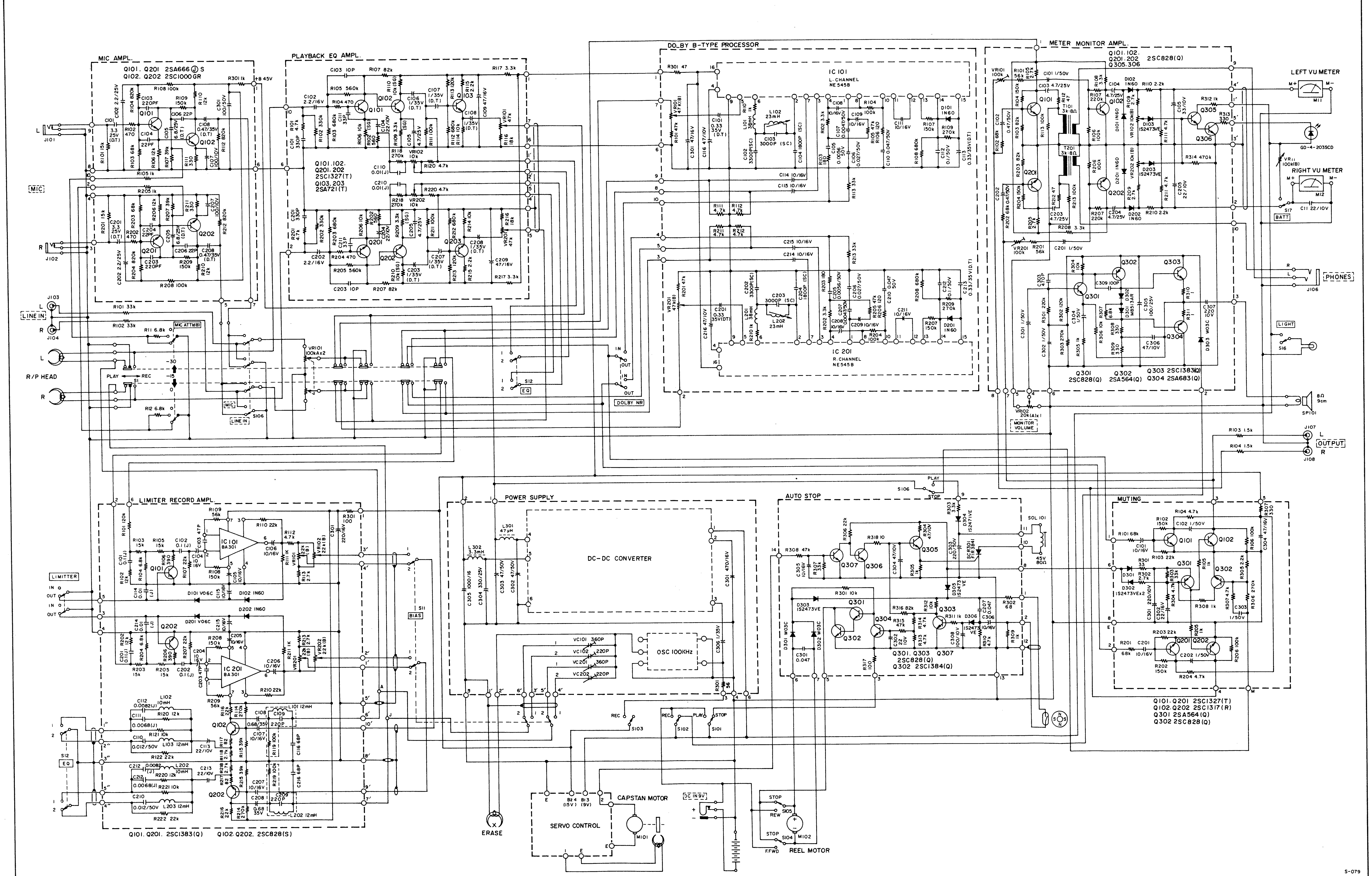
* Inner dia. for washers and nuts

	Code	*Full Name*	*Type*
MACHINE SCREW	**R**	Round Head Screw	
	P	Pan Head Screw	
	T	Stove Head Screw (Truss)	
	B	Binding Head Screw	
	F	Flat Countersunk Head Screw	
	O	Oval Countersunk Head Screw	
WOOD SCREW	**RW**	Round Head Wood Screw	
	FW	Flat Countersunk Wood Screw	
	OW	Oval Countersunk Wood Screw	
SEMS SCREW	**BSA**	Binding Head SEMS Screw(A Type)	
	BSB	Binding Head SEMS Screw(B Type)	
	BSF	Binding Head SEMS Screw(F Type)	
	PSA	Pan Head SEMS Screw(A Type)	
	PSB	Pan Head SEMS Screw(B Type)	

	Code	*Full Name*	*Type*
TAPPING SCREW	**BTA**	Binding Head Tapping Screw(A Type)	
	BTB	Binding Head Tapping Screw(B Type)	
	RTA	Round Head Tapping Screw(A Type)	
	RTB	Round Head Tapping Screw(B Type)	
SETSCREW	**SF**	Hex Socket Setscrew(Flat Point)	
	SC	Hex Socket Setscrew(Cup Point)	
	SS	Slotted Socket Setscrew(Flat Point)	
WASHER	**E**	E-Ring (Retaining Washer)	
	W	Flat Washer (Plain)	
	SW	Lock Washer (Spring)	
	LWI	Lock Washer (Internal Teeth)	
	LWE	Lock Washer (External Teeth)	
	TW	Trim Washer (Countersunk)	
NUT	**N**	Hex Nut	

T-310

SCHEMATISCHES DIAGRAMM   DIAGRAMME SCHEMATIQUE   SCHEMATIC DIAGRAM   DIAGRAMA ESQUEMATICO


MIC AMPL.
Q101, Q201 2SA666(Q) S
Q102, Q202 2SC1000GR
PLAYBACK EQ AMPL.
Q101, 102, Q201, 202 2SC1327(T)
Q103, 203 2SA721(T)
DOLBY B-TYPE PROCESSOR
IC 101 L. CHANNEL NE 545B
IC 201 R. CHANNEL NE 545B
METER MONITOR AMPL.
Q101, 102, Q201, 202 2SC828(Q)
Q305, 306
Q301 2SC828(Q)
Q302 2SA564(Q)
Q303 2SC1383(Q)
Q304 2SA683(Q)
LEFT VU METER
RIGHT VU METER
GD-4-203SCD
BATT
PHONES
LIGHT
MONITOR VOLUME
OUTPUT
J101
J102
J103
J104
J106
J107
J108
MIC
LINE IN
R/P HEAD
PLAY
REC
MIC ATT(B)
EQ
DOLBY NR
LIMITTER
LIMITER RECORD AMPL.
IC101 BA301
IC201 BA301
Q101, Q201, 2SC1383(Q)
Q102, Q202, 2SC828(S)
BIAS
POWER SUPPLY
DC-DC CONVERTER
OSC 100kHz
ERASE
SERVO CONTROL
CAPSTAN MOTOR
M101
DC IN 9V
REEL MOTOR
M102
STOP
REW
F.FWD
AUTO STOP
Q301, Q303, Q307 2SC828(Q)
Q302 2SC1384(Q)
SOL 101
MUTING
Q101, Q201 2SC1327(T)
Q102, Q202 2SC1317(R)
Q301 2SA564(Q)
Q302 2SC828(Q)
SP101 8Ω 9cm

S-079

KASSETTENREKORDER
ENREGISTREUR A CASSETTE
CASSETTE RECORDER
GRABADORA A CASSETTE

REVISION	DATE	CHANGE NO.
6	·	
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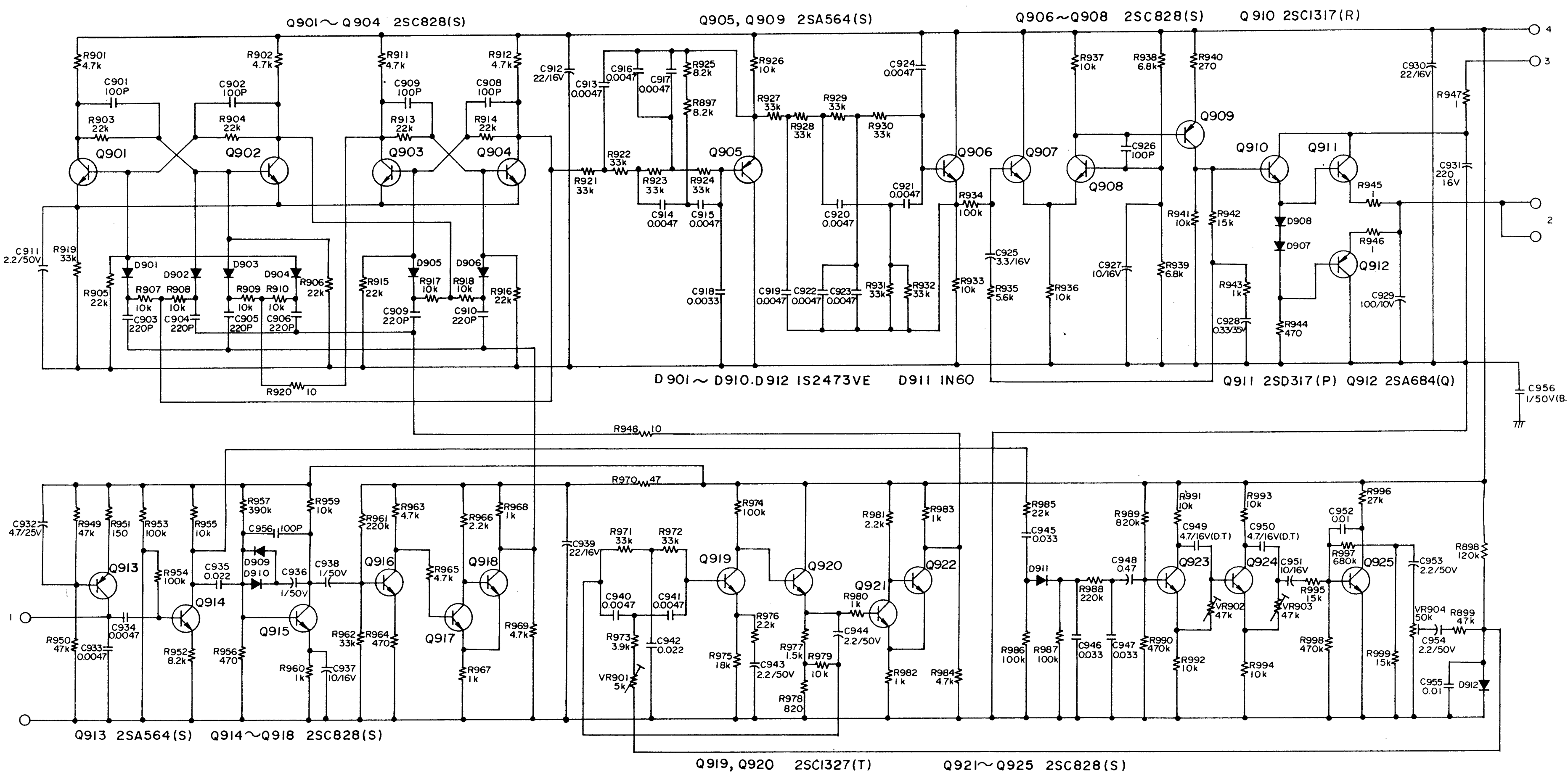
CASSETTE RECORDER

MODEL NO. **PC-10**

SHEET NO. /

TEAC CORPORATION


Q901～Q904 2SC828(S)
Q905, Q909 2SA564(S)
Q906～Q908 2SC828(S)
Q910 2SC1317(R)
D901～D910.D912 IS2473VE
D911 IN60
Q911 2SD317(P) Q912 2SA684(Q)
C956 1/50V(B.P)
R948 10
R970 47
R920 10
Q913 2SA564(S)
Q914～Q918 2SC828(S)
Q919, Q920 2SC1327(T)
Q921～Q925 2SC828(S)
1
2
3
4

S-080

SERVOSTEUERUNG
COMMANDE SERVO
SERVO CONTROL
SERVOCONTROL

REVISION	DATE	CHANGE NO.
6		
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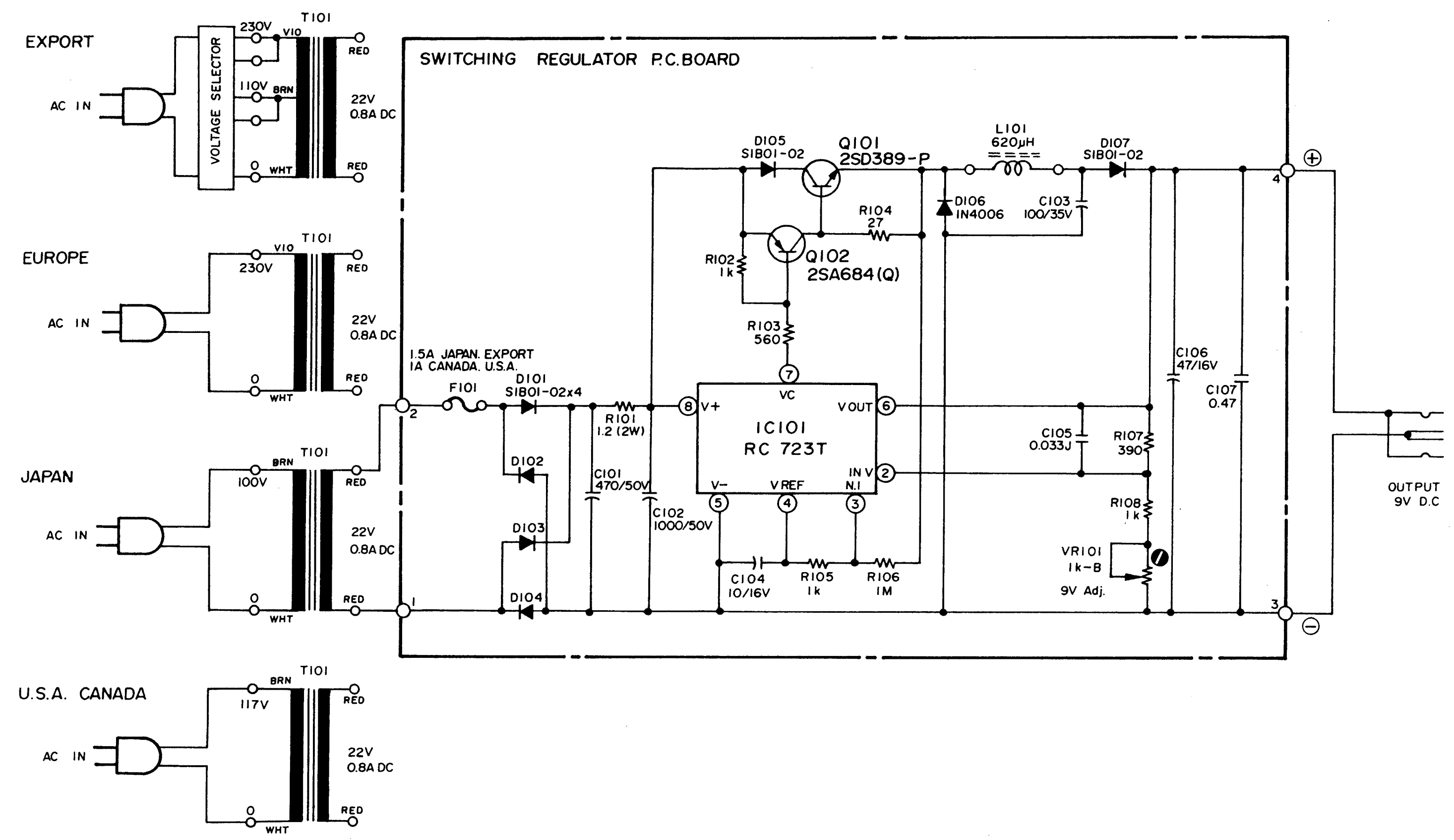
SERVO CONTROL
MODEL NO. **PC-10**
SHEET NO.
TEAC CORPORATION


EXPORT
AC IN
VOLTAGE SELECTOR
230V
110V
T101
22V 0.8A DC
EUROPE
JAPAN
100V
U.S.A. CANADA
117V
SWITCHING REGULATOR P.C.BOARD
1.5A JAPAN. EXPORT
1A CANADA. U.S.A.
F101
D101 S1B01-02x4
D105 S1B01-02
Q101 2SD389-P
Q102 2SA684(Q)
L101 620μH
D107 S1B01-02
D106 1N4006
C103 100/35V
R104 27
R102 1k
R103 560
R101 1.2 (2W)
C101 470/50V
C102 1000/50V
IC101 RC 723T
C104 10/16V
R105 1k
R106 1M
C105 0.033J
C106 47/16V
C107 0.47
R107 390
R108 1k
VR101 1k-B
9V Adj.
OUTPUT 9V D.C

S-081

NETZADAPTER
ADAPTATEUR CA
AC ADAPTOR
ADAPTADOR CA

REVISION	DATE	CHANGE NO.
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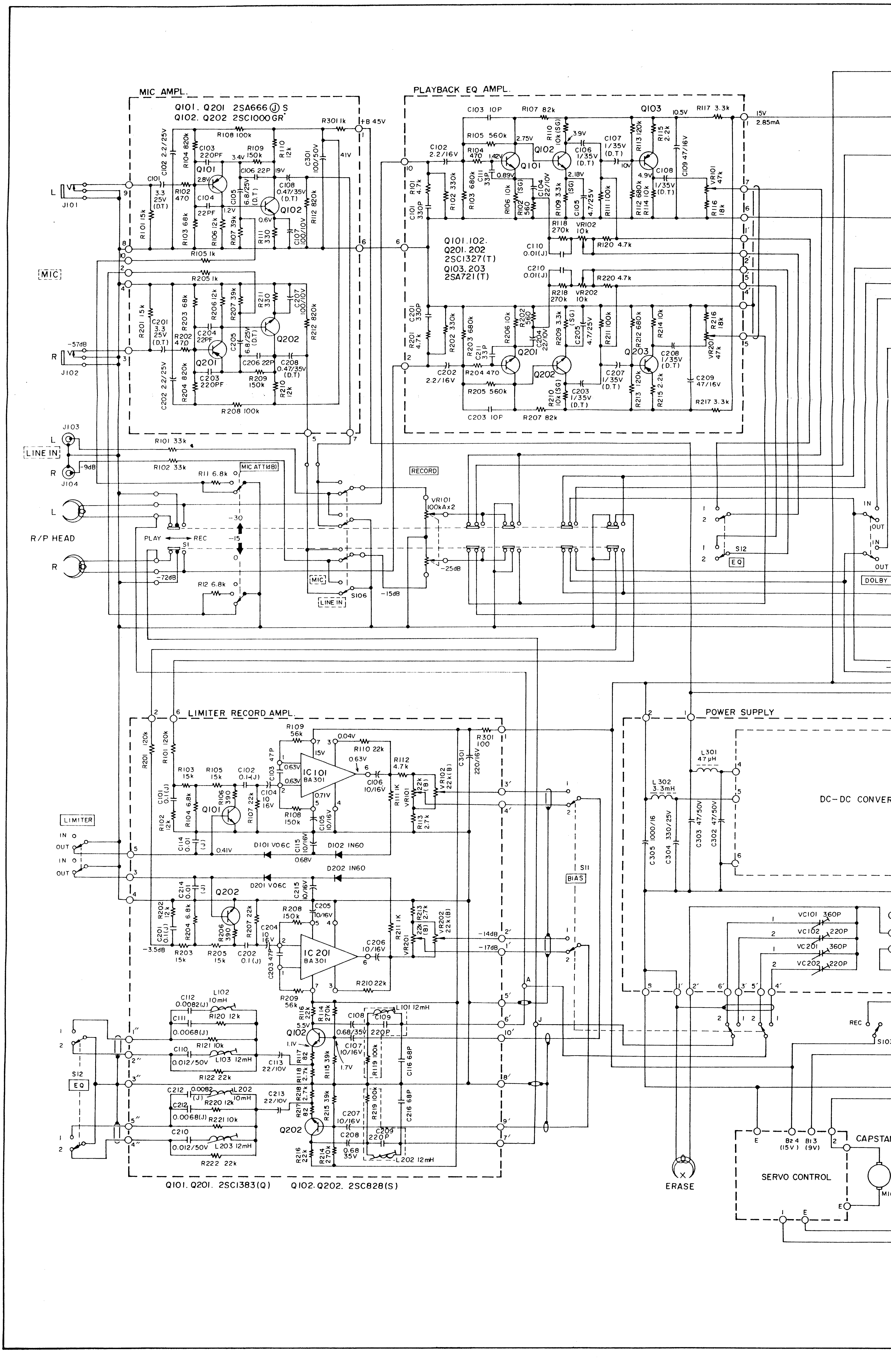
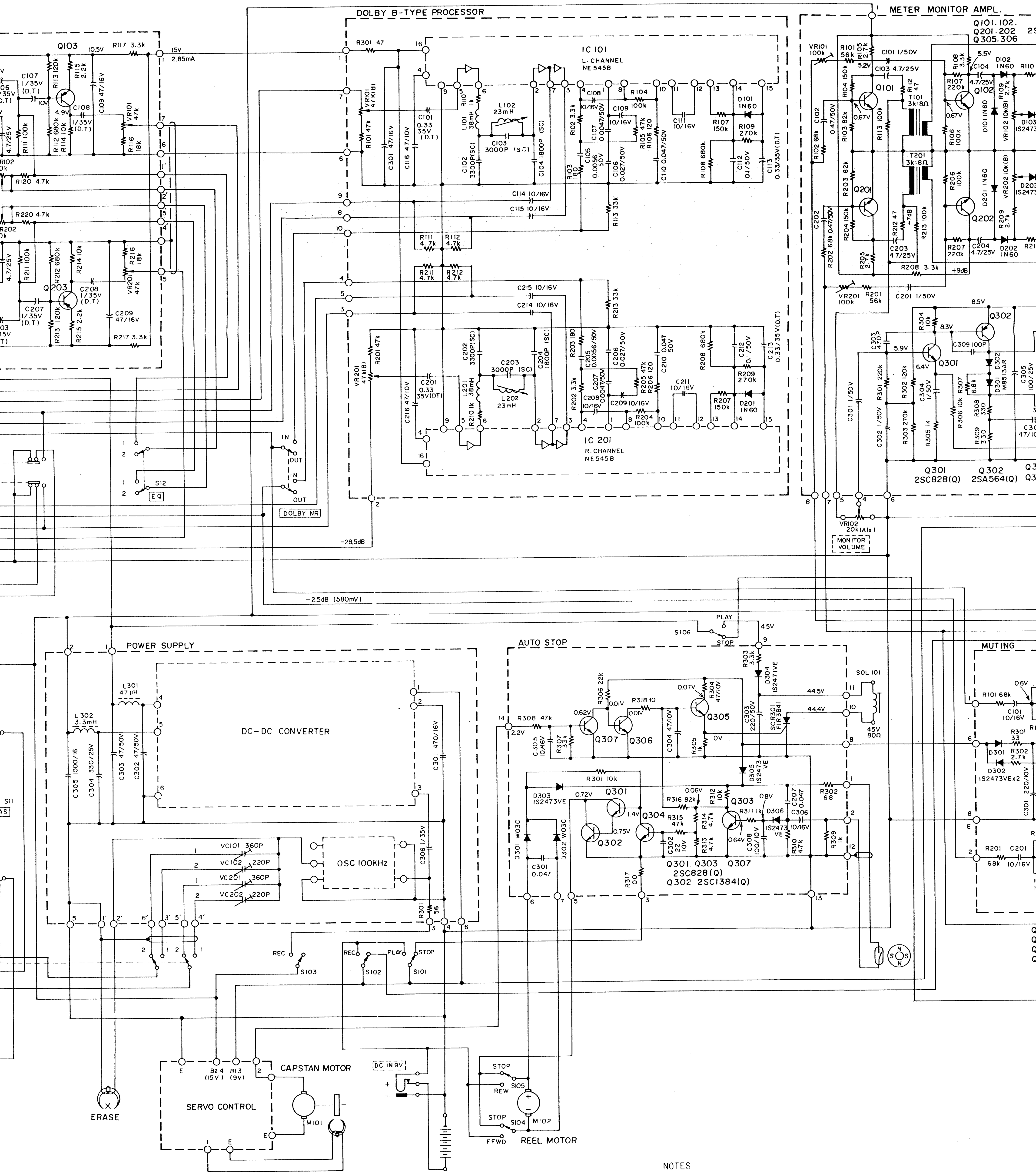
AC ADAPTOR
MODEL NO. **PA-2**
SHEET NO.
TEAC CORPORATION

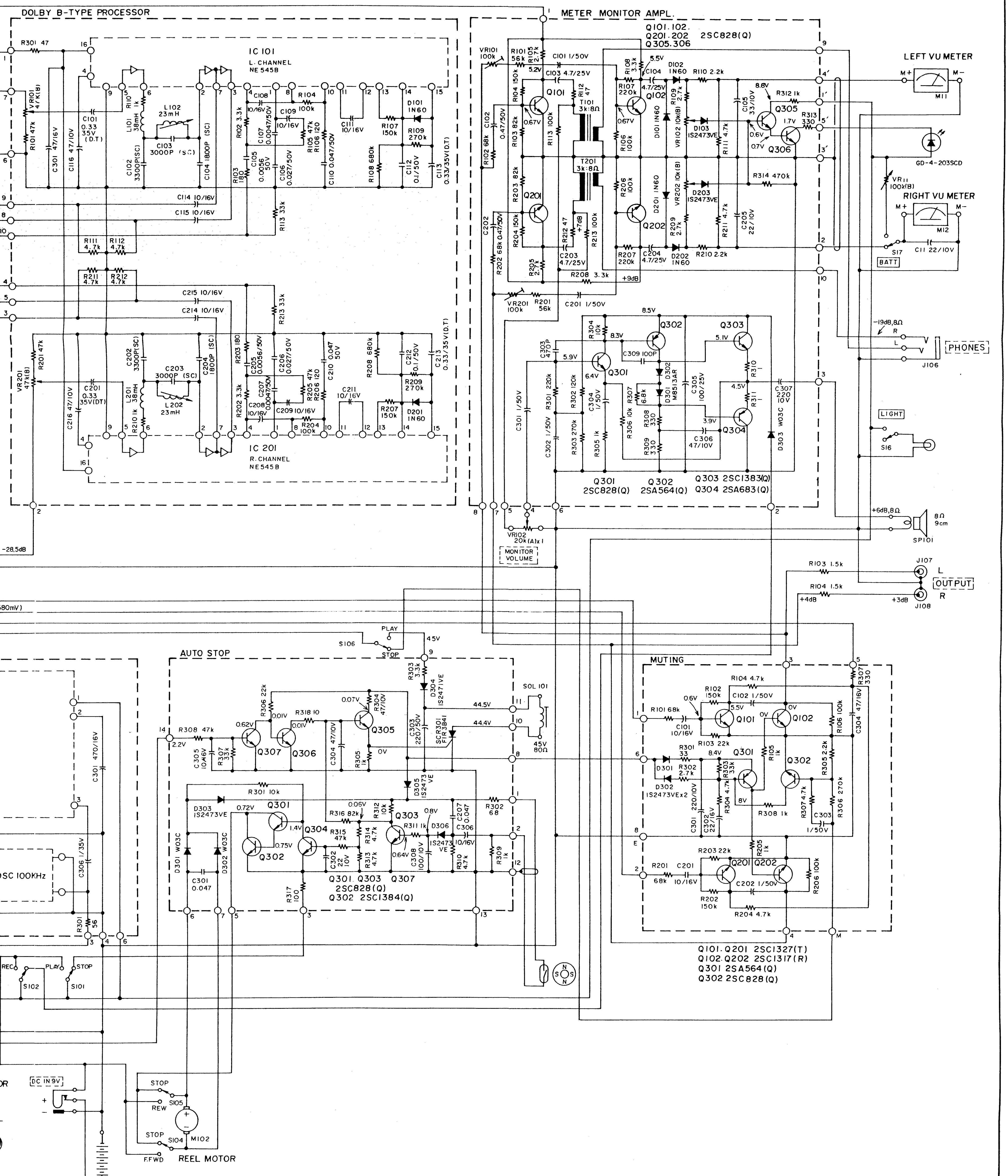

MIC AMPL.
Q101. Q201 2SA666(J) S
Q102. Q202 2SC1000GR
PLAYBACK EQ AMPL.
Q101.102. Q201.202 2SC1327(T)
Q103.203 2SA721(T)
J101
J102
J103
J104
MIC
LINE IN
R/P HEAD
PLAY REC
S1
MIC ATT(dB)
RECORD
VR101 100kAx2
S106
EQ
S12
DOLBY
IN
OUT
LIMITER RECORD AMPL.
IC101 BA301
IC201 BA301
LIMITER
BIAS
S11
POWER SUPPLY
DC-DC CONVER
L301 47μH
L302 3.3mH
ERASE
SERVO CONTROL
CAPSTA
REC
S103
B24 (15V)
B13 (9V)
Q101. Q201. 2SC1383(Q)
Q102. Q202. 2SC828(S)
15V
2.85mA
+B 45V
-57dB
-9dB
-72dB
-25dB
-15dB
-30
-15
0
-14dB
-17dB
-3.5dB



DOLBY B-TYPE PROCESSOR
IC 101
L. CHANNEL
NE 545B
IC 201
R. CHANNEL
NE 545B
METER MONITOR AMPL.
Q101.102.
Q201.202
Q305.306
Q103
Q203
15V
2.85mA
R117 3.3k
R217 3.3k
R301 47
VR101 47k(B)
VR201 47k(B)
L102 23mH
L202 23mH
T101 3k:8Ω
T201 3k:8Ω
Q101
Q102
Q201
Q202
Q301
Q302
Q301 2SC828(Q)
Q302 2SA564(Q)
VR102 20k(A)x1
MONITOR VOLUME
S12
EQ
DOLBY NR
IN
OUT
-28.5dB
-2.5dB (580mV)
+7dB
+9dB
POWER SUPPLY
L301 47μH
L302 3.3mH
DC-DC CONVERTER
OSC 100KHz
VC101 360P
VC102 220P
VC201 360P
VC202 220P
AUTO STOP
Q301 Q303 Q307
2SC828(Q)
Q302 2SC1384(Q)
Q303
Q304
Q305
Q306
Q307
SCR301 SF1R384
SOL 101
45V 80Ω
PLAY
STOP
S106
45V
44.5V
44.4V
MUTING
R101 68k
C101 10/16V
S101
S102
S103
REC
S104
S105
REW
F.FWD
DC IN 9V
CAPSTAN MOTOR
M101
SERVO CONTROL
B2 4 (15V)
B1 3 (9V)
REEL MOTOR
M102
ERASE
S11

NOTES

ALL RESISTORS ARE ¼ WATT, 5%, UNLESS MARKED OTHERWISE.
RESISTOR VALUES ARE IN OHMS (k=1,000 OHMS, M=1,000,000 OHMS).
ALL CAPACITOR VALUES ARE IN MICROFARADS (p=PICOFARADS)
DC VOLTAGES WERE MEASURED DURING PLAY MODE.
SIGNAL LEVELS (dB) WERE MEASURED WITH INPUT AND OUTPUT
CONTROLS AT SPECIFIED POSITION.
READING IN dB REFERENCED TO 0dB=0.775V.


DOLBY B-TYPE PROCESSOR
IC 101
L. CHANNEL
NE545B
IC 201
R. CHANNEL
NE545B
METER MONITOR AMPL.
Q101·102
Q201·202 2SC828(Q)
Q305·306
Q301 2SC828(Q)
Q302 2SA564(Q)
Q303 2SC1383(Q)
Q304 2SA683(Q)
T101 3k:8Ω
T201 3k:8Ω
LEFT VU METER
M11
GD-4-203SCD
VR11 100k(B)
RIGHT VU METER
M12
S17
BATT
C11 22/10V
PHONES
J106
-19dB,8Ω
LIGHT
S16
+6dB,8Ω
8Ω 9cm
SP101
VR102 20k(A)x1
MONITOR VOLUME
J107
J108
OUTPUT
L
R
R103 1.5k
R104 1.5k
+4dB
+3dB
-28.5dB
PLAY
S106
STOP
45V
AUTO STOP
SOL 101
45V 80Ω
SCR301 FI3841
Q301 Q303 Q307
2SC828(Q)
Q302 2SC1384(Q)
MUTING
Q101·Q201 2SC1327(T)
Q102·Q202 2SC1317(R)
Q301 2SA564(Q)
Q302 2SC828(Q)
OSC 100KHz
REC
PLAY
STOP
S102
S101
DC IN 9V
STOP
S105
REW
STOP
S104
M102
F.FWD
REEL MOTOR
+9dB

NOTES

ALL RESISTORS ARE ¼ WATT, 5%, UNLESS MARKED OTHERWISE.
RESISTOR VALUES ARE IN OHMS (k=1,000 OHMS, M=1,000,000 OHMS).
ALL CAPACITOR VALUES ARE IN MICROFARADS (p=PICOFARADS)
DC VOLTAGES WERE MEASURED DURING PLAY MODE.
SIGNAL LEVELS (dB) WERE MEASURED WITH INPUT AND OUTPUT
CONTROLS AT SPECIFIED POSITION.
READING IN dB REFERENCED TO 0dB=0.775V.

S-079

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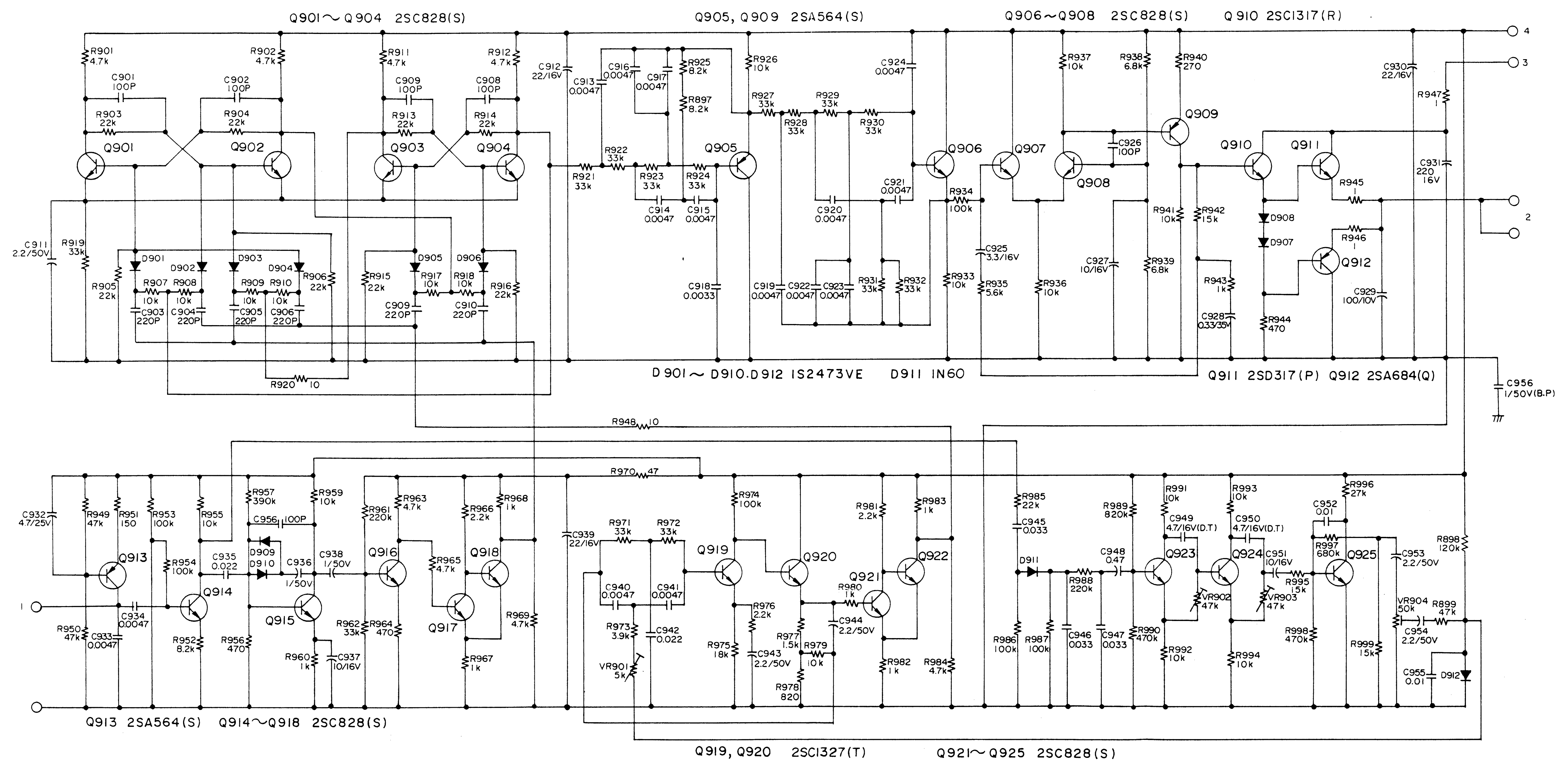
1	03·76	PC-030
REVISION	DATE	CHANGE NO.

CASSETTE RECORDER
MODEL NO.
PC-10
SHEET NO.
TEAC CORPORATION


Q901～Q904 2SC828(S)
Q905, Q909 2SA564(S)
Q906～Q908 2SC828(S)
Q910 2SC1317(R)
D901～D910.D912 1S2473VE
D911 1N60
Q911 2SD317(P) Q912 2SA684(Q)
Q913 2SA564(S) Q914～Q918 2SC828(S)
Q919, Q920 2SC1327(T)
Q921～Q925 2SC828(S)
R901 4.7k
R902 4.7k
C901 100P
C902 100P
R903 22k
R904 22k
Q901
Q902
R911 4.7k
R912 4.7k
C909 100P
C908 100P
R913 22k
R914 22k
Q903
Q904
C911 2.2/50V
R919 33k
R905 22k
D901
D902
D903
D904
R906 22k
R907 10k
R908 10k
R909 10k
R910 10k
C903 220P
C904 220P
C905 220P
C906 220P
R920 10
R915 22k
D905
D906
R917 10k
R918 10k
R916 22k
C909 220P
C910 220P
C912 22/16V
C913 0.0047
C916 0.0047
C917 0.0047
R925 8.2k
R897 8.2k
R921 33k
R922 33k
R923 33k
R924 33k
C914 0.0047
C915 0.0047
C918 0.0033
Q905
R926 10k
R927 33k
R928 33k
R929 33k
R930 33k
C924 0.0047
C921 0.0047
C920 0.0047
C919 0.0047
C922 0.0047
C923 0.0047
R931 33k
R932 33k
Q906
R934 100k
R933 10k
C925 3.3/16V
R935 5.6k
Q907
Q908
R936 10k
R937 10k
R938 6.8k
C926 100P
C927 10/16V
R939 6.8k
Q909
R940 270
R941 10k
R942 15k
R943 1k
C928 0.33/35V
Q910
Q911
R945 1
D908
D907
R944 470
R946 1
Q912
C929 100/10V
C930 22/16V
R947 1
C931 220 16V
C956 1/50V(B.P)
4
3
2
1
R948 10
R970 47
C932 4.7/25V
R949 47k
R951 150
R953 100k
R955 10k
Q913
R950 47k
C933 0.0047
C934 0.0047
R954 100k
C935 0.022
Q914
R952 8.2k
R957 390k
C956 100P
D909
D910
C936 1/50V
R956 470
Q915
R959 10k
C938 1/50V
R960 1k
C937 10/16V
R961 220k
R962 33k
Q916
R963 4.7k
R964 470
R965 4.7k
Q917
R966 2.2k
Q918
R968 1k
R967 1k
R969 4.7k
C939 22/16V
R971 33k
R972 33k
C940 0.0047
C941 0.0047
R973 3.9k
C942 0.022
VR901 5k
Q919
R974 100k
R975 18k
R976 2.2k
C943 2.2/50V
Q920
R977 1.5k
R979 10k
R978 820
R980 1k
C944 2.2/50V
Q921
R981 2.2k
R982 1k
Q922
R983 1k
R984 4.7k
R985 22k
C945 0.033
D911
R986 100k
R987 100k
R988 220k
C946 0.033
C947 0.033
C948 0.47
R989 820k
R990 470k
Q923
R991 10k
C949 4.7/16V(D.T)
R992 10k
VR902 47k
Q924
R993 10k
C950 4.7/16V(D.T)
C951 10/16V
R995 15k
VR903 47k
R994 10k
C952 0.01
R996 27k
R997 680k
Q925
R998 470k
R999 15k
C953 2.2/50V
R898 120k
VR904 50k
R899 47k
C954 2.2/50V
C955 0.01
D912

NOTES

1. ALL RESISTORS ARE ¼ WATT, 5%, UNLESS MARKED OTHERWISE.
RESISTOR VALUES ARE IN OHMS (k=1,000 OHMS, M=1,000,000 OHMS).
2. ALL CAPACITOR VALUES ARE IN MICROFARADS (p=PICOFARADS).

S-080

6		
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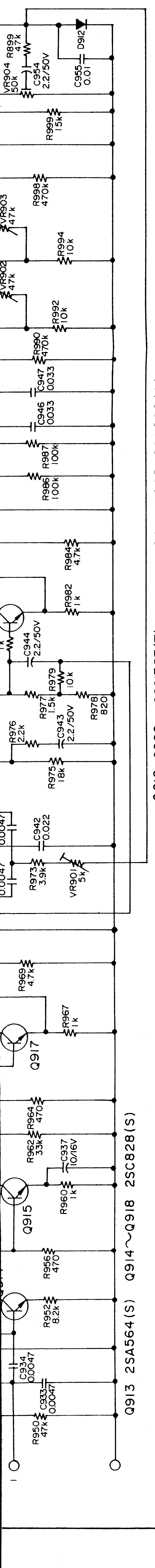
3		

SERVO CONTROL

MODEL NO. **PC-10**

SHEET NO.



VR904 50k
R899 47k
C954 2.2/50V
C955 0.01
D912
R999 15k
R998 470k
VR903 47k
R994 10k
VR902 47k
R992 10k
R990 470k
C947 0.033
C946 0.033
R987 100k
R986 100k
R984 4.7k
R982 1k
C944 2.2/50V
R979 10k
R977 1.5k
R978 820
R976 22k
C943 2.2/50V
R975 18k
C942 0.022
R973 3.9k
VR901 5k
R969 4.7k
R967 1k
Q917
R964 470
R962 33k
C937 10/16V
R960 1k
Q915
R956 470
R952 8.2k
C934 0.0047
C933 0.0047
R950 47k

Q913 2SA564(S) Q914～Q918 2SC828(S) Q919, Q920 2SC1327(T) Q921～Q925 2SC828(S)

NOTES
1. ALL RESISTORS ARE ¼ WATT, 5%, UNLESS MARKED OTHERWISE.
RESISTOR VALUES ARE IN OHMS (k=1,000 OHMS, M=1,000,000 OHMS).
2. ALL CAPACITOR VALUES ARE IN MICROFARADS (p=PICOFARADS).

S-080

SERVO CONTROL
MODEL NO **PC-10**
SHEET NO
TEAC CORPORATION

REVISION	DATE	CHANGE NO.
1	03.76	PC-030
2		
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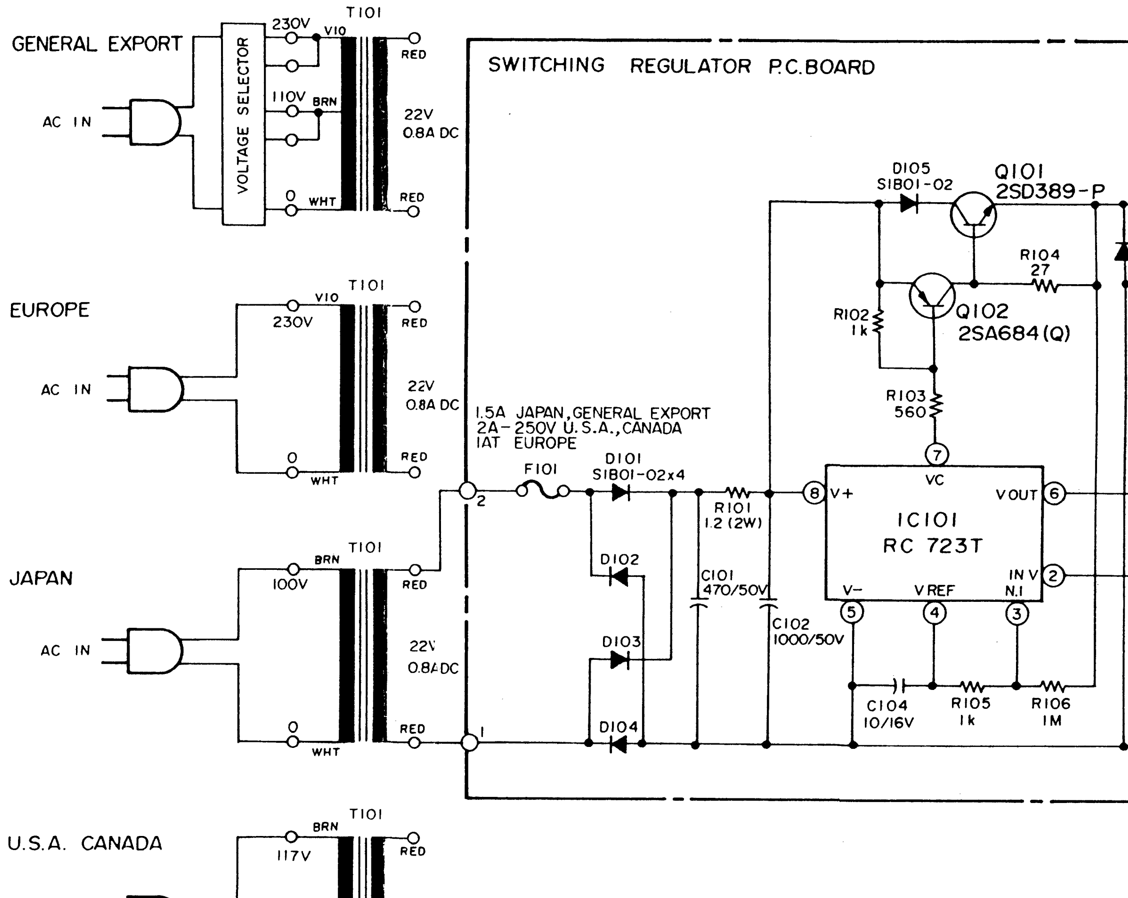
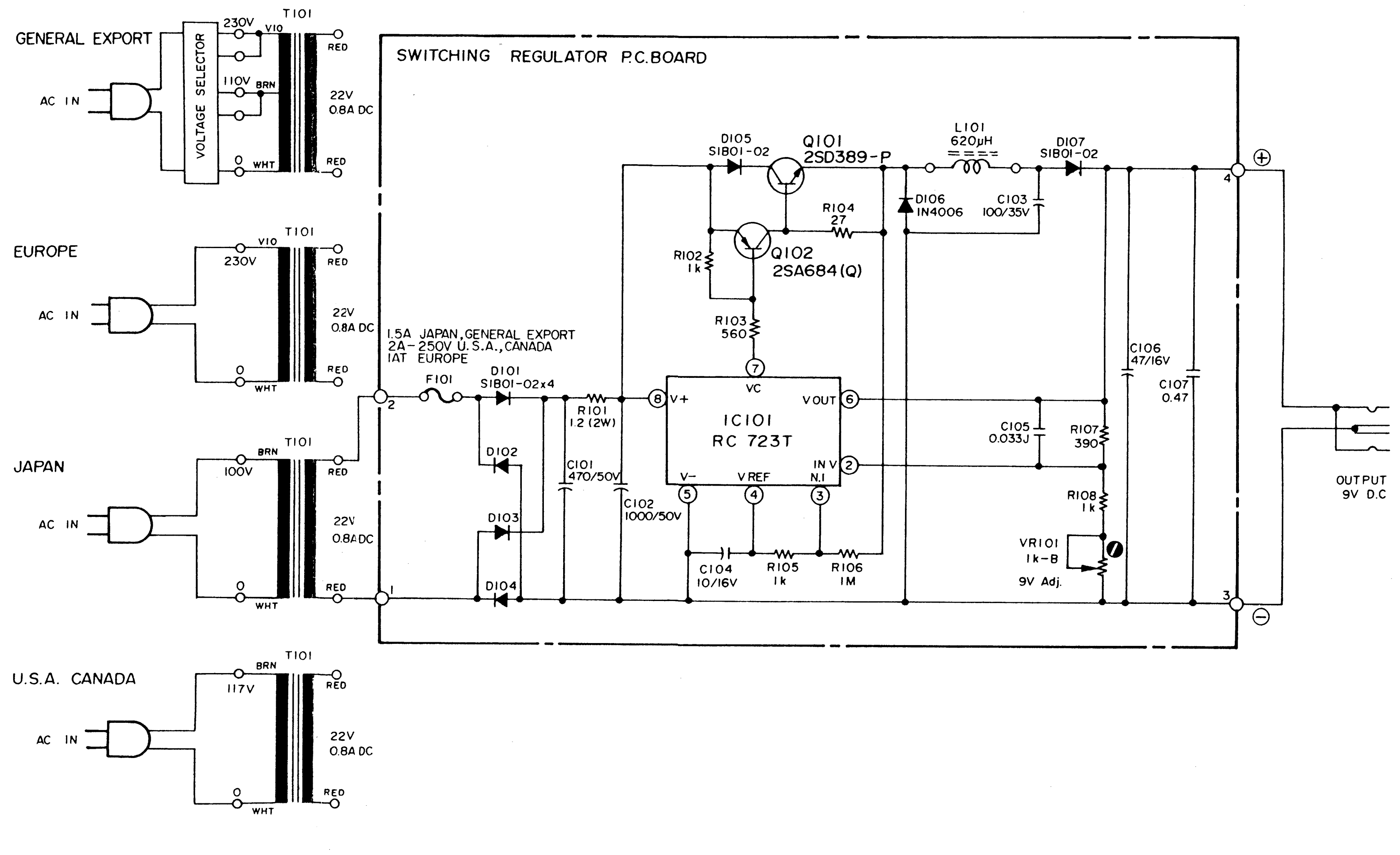
5		
6		



GENERAL EXPORT
AC IN
VOLTAGE SELECTOR
230V
110V
0
V10
BRN
WHT
T101
RED
22V 0.8A DC
EUROPE
JAPAN
100V
U.S.A. CANADA
117V
SWITCHING REGULATOR P.C.BOARD
1.5A JAPAN, GENERAL EXPORT
2A-250V U.S.A., CANADA
1AT EUROPE
F101
D101 S1B01-02x4
R101 1.2 (2W)
D102
D103
D104
C101 470/50V
C102 1000/50V
D105 S1B01-02
Q101 2SD389-P
R104 27
R102 1k
Q102 2SA684(Q)
R103 560
IC101 RC 723T
V+
VC
VOUT
INV
N.I
V-
VREF
C104 10/16V
R105 1k
R106 1M

NOTES
1. ALL RESISTORS ARE ¼ WATT, 5%, UNLESS MARKED OTHERWISE.
RESISTOR VALUES ARE IN OHMS (k=1,000 OHMS, M=1,000,000 OHMS
2. ALL CAPACITOR VALUES ARE IN MICROFARADS (p=PICOFARADS).


GENERAL EXPORT
AC IN
VOLTAGE SELECTOR
230V
110V
0
V10
BRN
WHT
T101
RED
22V
0.8A DC
EUROPE
JAPAN
100V
U.S.A. CANADA
117V
SWITCHING REGULATOR P.C.BOARD
1.5A JAPAN, GENERAL EXPORT
2A-250V U.S.A., CANADA
1AT EUROPE
F101
D101
S1B01-02x4
D102
D103
D104
R101
1.2 (2W)
C101
470/50V
C102
1000/50V
D105
S1B01-02
Q101
2SD389-P
Q102
2SA684(Q)
R102
1k
R103
560
R104
27
IC101
RC 723T
V+
VC
VOUT
INV
N.I
V-
VREF
C104
10/16V
R105
1k
R106
1M
L101
620μH
D106
1N4006
C103
100/35V
D107
S1B01-02
C105
0.033J
R107
390
R108
1k
VR101
1k-B
9V Adj.
C106
47/16V
C107
0.47
OUTPUT
9V D.C
⊕
⊖

S-081

NOTES

1. ALL RESISTORS ARE ¼ WATT, 5%, UNLESS MARKED OTHERWISE.
RESISTOR VALUES ARE IN OHMS (k=1,000 OHMS, M=1,000,000 OHMS).
2. ALL CAPACITOR VALUES ARE IN MICROFARADS (p=PICOFARADS).

REVISION	DATE	CHANGE NO.
6	·	
5		
4	·	
3	·	
2	·	
1	03·76	PC-030

AC ADAPTOR

MODEL NO. **PA-2**

SHEET NO. /

TEAC CORPORATION